TECHNOLOGY DEPT.

PUBLIC LIBRARY
FEB 25 1942
DETROIT

SAMPLE COPY

BUSINESS & FINANCE

'It's Important to Know In Time'

Member Associated Business Papers, Inc.; Audit Bureau of Circulations.

The Newspaper of the Industry

Air Conditioning & REFRIGERATION NEWS

AN INTERNATIONAL INSTITUTION ★ SUBSCRIBERS ALL OVER THE WORLD ★

Reentered as second-class matter October 3, 1936 at the post office at Detroit, Michigan, under the Act of March 3, 1879.
Trade Mark Registered U. S. Patent Office. Copyright, 1942, by Business News Publishing Co.
'Written to be Read on Arrival'

Issued Every Wednesday at Detroit, Michigan

JAN. 7, 1942

Vol. 35, No. 1, Serial No. 668
Established 1926.

St Louis Dealers Try Other Items To Help Volume

ST. LOUIS—In the face of limited deliveries of major appliances which were bulk source of profits, St. Louis appliance dealers have begun going in heavily for substitute lines to plug the gaps in sales volume.

May Appliance Co., large G-E dealership at 2800 Cherokee St., has taken the unusual stand of doubling the size of its building instead of retrenching, and has added a complete selection of furniture shown in a room the same size as the refrigerator, range, washing machine, and home laundry showroom. Here David May, proprietor, is displaying a full line of breakfast tables and chairs, dining room furniture, upholstered living room furniture, and such extras as coffee tables, smoking stands, lamps, and desks.

The store plans to follow up all regular customers listed on the books (more than 6,000) with furniture as well as appliance service, and has found after a month's operation that the price markup on furniture will go a long way to keep salesmen earning a fair living and preventing cutting down on salaries and costs.

The store sent out an announcement to all its time payment and

(Concluded on Page 4, Column 4)

Washer Makers Given Praise For Wartime Plant Conversions

WASHINGTON, D. C.—So successful was the conversion of the washer and ironer industry to military production of machine gun mounts that the changeover plans will be used as a "blueprint" for conversion of the durable goods industry to war work, says Floyd Odlum of the Office of Production Management.

Mr. Odlum has called for a series of conferences on changing over peacetime plants to wartime uses, and the case history of the first industry converted from civilian to military status will be the "textbook."

The "blueprint" will be revised here and there to meet individual problems, officials say, adding that it may become historic for the fast changeovers achieved along industry-wide lines.

The plan is simple and direct. It works like this:

An industry committee comes to Washington to learn how its particular type of plant machinery can be used to help win the war. It talks with Army, Navy, and OPM experts and decides on one or more military products. Then technical committees commence a detailed analysis of the machinery, facilities, manpower,

(Concluded on Page 4, Column 5)

2nd Frozen Foods Show To Be Held Jan. 26-29

CHICAGO—Plans for the Second National Frozen Foods Exposition, to be held Jan. 26 to 29 at the LaSalle hotel here, are beginning to take definite form.

There will be 35 display booths. Among the firms which have already signed up for exhibit space are: Armstrong Cork Co., Weber Showcase & Fixture Co., Inc.; Liquid Carbonic Corp.; Deepfreeze division, Motor Products Corp.; Harold L. Schaefer, Inc.; Grand Rapids Cabinet Co.

No long speeches are scheduled. All talks will be confined to the

(Concluded on Page 4, Column 3)

Kelvinator, Hotpoint, Westinghouse Announce 'Shortened' 1942 Lines

Interior Changed In Westinghouse Household Line

MANSFIELD, Ohio—Six models, four sevens and two nines, comprise the wartime refrigerator line for 1942 just introduced by Westinghouse Electric & Mfg. Co. here.

Last year the Westinghouse line consisted of 15 models.

"Thrifty use of critical materials and other materials in demand for wartime needs" is made by the new line, it is said, and to conserve time and equipment during the emergency period, the company did not undertake the usual extensive re-tooling of production machinery, it was announced.

Among the war-necessitated changes this year is the substitution of a porcelain enameled evaporator door for the aluminum door formerly used. According to T. J. Newcomb, manager of the Westinghouse household refrigerator department, "this provides a heavier door, better looking than the former type—and of course more expensive for us to make."

There are other improvements and added convenience features in the line, however, not necessarily due to the war. Outstanding change is the introduction of a hinged shelf which permits storage of milk bottles or other large containers in the lower section. In all, 16 different shelf arrangements are possible in the new Westinghouse refrigerator. Another change is the new unrefrigerated

(Concluded on Page 7, Column 1)

Trade Papers Needed In War Drive, Nelson Says

WASHINGTON, D. C.—"America today is confronted with a task of converting industry into a machine for victory; and in this task the business press of the nation can play a most conspicuous part," Donald M. Nelson, executive director of SPAB, told a representative group of business paper editors and publishers who met with him at his office on Dec. 19.

"The war," said Mr. Nelson, "has

(Concluded on Page 4, Column 1)

Steel Shell Casings May Cut Copper Shortage

NEW YORK CITY—Steel may soon replace brass in U. S. shell casings, with the result that the expected copper shortage in 1942 may be cut by 50%, it is reported in a recent issue of "Time" magazine.

The U. S. Army is said to be completing experiments with this type of production, and are also watching operations at American Fork & Hoe Co. of Cleveland, where steel shells are actually being made for the Canadian Army.

According to the account in "Time," it has been found that some of steel's disadvantages in use as shell casings can be overcome by plating it thinly with copper. This protects the steel from rust and damage by powder fumes, which corrode unplated steel casings so badly that they can be used only once, while brass casings can be used four times. Copperplated steel casings, however, would seem to be resistant enough to be re-used 15 times.

Hotpoint Features New Conveniences, Large Freezers

CHICAGO—A general shortening of the line and refinements in convenience features introduced previously characterize the eight electric refrigerator models which make up the Hotpoint series for 1942.

In contrast to last year, when the heavy play was on 6-foot boxes, this year's Hotpoint line includes only one unit of this size, with the emphasis shifted to 7-foot models. Four units of this size are in the 1942 line. Except for one all-porcelain model in the 7-foot series, another in the 8-foot class, and the 12 and 16-foot Imperial models, all units have lacquer exteriors.

Models in the current Hotpoint line include the 6-cu. ft. Special (EA63); the 7-cu. ft. Doric (EA7); the Special Doric (EAS7); the 7-cu. ft. Standard Doric, in either Calgloss or porcelain finish (EB7 or EPB7); the 7-cu. ft. Deluxe Doric (EC7); the

(Concluded on Page 4, Column 4)

The Victory Refrigerator!

For a startling prediction of what may come to pass in the household appliance industry, read the editorial on page 6 of this issue.

In line with the 10-year-old policy of the NEWS in making annual forecasts on the state of the industry in the first issue of each New Year, the editor releases a "trial balloon" which may astonish you!

Forewarned is forearmed, and subscribers who read this editorial can begin to plan for the strange new future which it outlines.

Kelvinator Has 'Seven' In 1942 Line At $149.95

DETROIT—Kelvinator has "stepped-up" the size of its electric refrigerator models for 1942, and has replaced the 6 and 8-foot boxes on which it has concentrated production for the past two years with units of 7and 9-foot capacity. The line also has been shortened to six models, four "sevens and two "nines," as compared with five "sixes" and two "eights" which made up the 1941 series.

Prices of the new models, it is revealed by Frank R. Pierce, vice president in charge of sales, will run from $149.95 for the lowest-priced 7-foot model to $259.95 for the big 9-foot "Moist-Master." Although necessarily higher than in 1941, prices of this year's Kelvinators still are as much as $30 below the level that existed in 1939 before the company established its streamlined distribution and manufacturing policy, Mr. Pierce points out.

The same policy regarding distribution and manufacturing is being followed as closely in the 1942 program as conditions permit, according to Charles T. Lawson, general sales manager of the Kelvinator division.

Evidence of this, he declares, is the fact that the company's line has been reduced from eight to six models, in line with the policy of reducing the dealer's investment by

(Concluded on Page 16, Column 1)

Robert Hood To Direct Ansul's Advertising

MARINETTE, Wis.—Robert C. Hood has been appointed advertising manager of Ansul Chemical Co. here.

Mr. Hood, youngest son of the late F. G. Hood, founder of Ansul Chemical Co., attended the University of Wisconsin, and since 1928 has been associated with both accounting and sales departments at the home office of the company here.

Chattanooga and Knoxville Retail Sales Down Sharply In November

KNOXVILLE, Tenn.—Sales of electric refrigerators and other major appliances dropped sharply during November compared with 1940 totals, according to dealer reports to Knoxville Electric Power & Water Board. Refrigerator sales totaled only 76 units, compared with 168 in the same month of 1940, but average price rose to $164, against $136 in the preceding year.

Volume of electric refrigerator sales during the month was $12,490, against $22,865 in 1940, while electric range sales volume dropped to $11,162, against $28,608, and water heater volume to $2,261, against $3,401 in 1940.

In the commercial field, however, sales totaled 17 units, against 16 in the same month of 1940, and average price rose to $905, compared with $429. Total sales volume hit $15,390, more than double the 1940 total of $6,860 for the month.

	1941	1940
Refrigerators	76	168
Ranges	79	217
Water Heaters	30	46
Commercial Boxes	17	16

CHATTANOOGA, Tenn.—Electric refrigerator sales here during November fell 150 units short of their comparable 1940 total, according to reports of dealers to the Electric Power Board of Chattanooga. Unit sales price, however, was up $5 over the preceding year.

Refrigerator sales totaled 126 units, against 276 in the same month of 1940, with average unit price about $140 compared with $135 in the preceding year. Total refrigerator volume was $17,681.50, against $37,271.85 in the same 1940 month.

Drop in sales can be attributed to "several causes," said C. B. Osborne, sales manager of the Electric Power Board, chief of which is the higher down payment and shorter payment terms now required on appliance contracts. The recent "power blackout" in this area was another contributing factor, Mr. Osborne said, as was the defense program and the threat of war, now a reality.

	1941	1940
Refrigerators	126	276
Ranges	98	204
Water Heaters	33	43

Odlum Aid Tells What Industry Could Produce

WASHINGTON, D. C.—If its production of normal goods were curtailed to 50% of 1939 levels, the refrigeration and air conditioning industry would be capable of producing $481,000,000 worth of war materials annually, Walter H. Wheeler, Jr., deputy to Floyd B. Odlum, director of the OPM Contract Distribution Division, told a special House committee investigating migration of defense workers.

Materials which the refrigeration and air conditioning industry could produce, Mr. Wheeler said, include fuel tanks, engine cowlings, compressors, fuse cylinders, mine sinkers, engine castings, bomb components, searchlight and motor parts, and smoke shells.

The household appliances industry, he asserted, could be converted to produce annually $36,000,000 worth of bombs and aircraft components, and the cooking utensil and aluminumware industry $54,000,000 worth of hurricane lamps, bomb components, tail fin assemblies, magazine holders, and engine cowlings.

In all, Mr. Wheeler said, industry-wide conversion of 15 durable goods industries could produce $3,900,000,000 worth of war materials annually. So far, the only industry-wide plan in effect has put the washer and ironer industry to work on a $12,500,000 contract for machine-gun mounts.

Unit Takes Thieves' Fancy & Vice-Versa

ST. LOUIS—"More precious than rubies" is a modern electric refrigerator, especially in times like these—or at least this was apparently the opinion of the thieves who recently broke into a large home in Clayton, a St. Louis suburb.

Although there were diamonds in a jewel box only a few feet away, the thieves passed them up for a brand new 7-foot refrigerator in the kitchen, which they managed to carry out of the house without attracting the attention of neighbors. Nothing else in the house was disturbed.

Colyer Resigns Position With Wolverine Tube

DETROIT—Resignation of J. D. Colyer as director and vice president in charge of sales of Wolverine Tube Co. is announced by Charles Limbocker, president.

Supervision of all sales work will continue under the direction of Otto Klopsch, vice president and general manager, with Robert Moody as special assistant, William Gernhart as office sales manager, and John Marshall heading the publicity department and electrical sales.

Copper Order Extended Pending Changes; Use In Radios Outlined

WASHINGTON, D. C.—Extension of General Preference Order M-9-a for two weeks pending completion of extensive revision of the Order was announced Jan. 2 by the Division of Priorities. The order, which was to expire as of Dec. 31, 1941, imposes priority control on copper.

An explanation of Conservation Order M-9-c, regulating the use of

(Concluded on Page 16, Column 4)

TR V.35-37 1942

Defense Areas Face Power Shortage For 2 Years, OEM Says

WASHINGTON, D. C.—Strategic defense areas of the United States are facing serious power shortages in 1942 and 1943, the Office for Emergency Management warns, which threaten not only to affect normal civilian life but also to curtail production in industries not vital to the defense program.

Unprecedented amounts of electric power will be required to produce the aluminum, iron, and steel, and to make the tanks, guns, and planes necessary for war, the agency said. Serious power shortages must therefore be expected in some sections in 1942 and 1943.

Sections in which such shortages were said to appear to be unavoidable were the Southeast, the Southwest, and the Pacific Coast, and part of the Middle West. Some large cities, such as Buffalo and St. Louis, also appear to face shortages.

The result, OEM warned, will have to be a curtailment of non-essential consumption of power in the areas affected. For such emergencies, the OEM has made these recommendations:

"Use the hot water heater sparingly. If you cook with an electric stove, use the thrift cooker. Open your refrigerator door as seldom as possible. Do not keep the radio on when you are not listening to it."

Measures taken during the power shortage in the Southeast last fall, with modifications necessary to meet local conditions, probably will be employed in future "rationing" programs, it was indicated.

During that period, all non-essential lighting, such as show windows, signs, athletic fields, interior and exterior decorative lighting, and flood lights, were blacked-out. Curtailments also were ordered for large commercial and industrial firms not engaged in defense production.

Total national power capacity at the end of 1940 was roughly 50,000,000 kilowatts, the OEM estimated.

Synthetic Rubber Plans Tripled In War Move

WASHINGTON, D. C.—A program for the expansion of the production of synthetic rubber, three times the size of the undertaking contemplated before the beginning of hostilities with Japan, was approved recently by SPAB.

The new program will assure the nation of an annual output of 120,000 tons of synthetic rubber. It was presented to SPAB by Jesse Jones, Federal Loan Administrator, who said that if the program is approved, construction of the increased facilities could begin promptly.

To this end, SPAB directed the OPM division of priorities to proceed at once to work out with Reconstruction Finance Corp. the necessary detailed tabulations of materials required for the new program.

Productive facilities for synthetic rubber now under construction have an annual capacity of 40,000 tons, and the contemplated additions would step up the output to 120,000 tons.

Henderson To Adjust Price Ceilings To Conform With Laws

WASHINGTON, D. C.—A review of all formal price ceilings and of informal agreements has been started by the Office of Price Administration in order to bring them into conformity with standards expected to be included in price control legislation enacted by Congress, Leon Henderson, price administrator, announced.

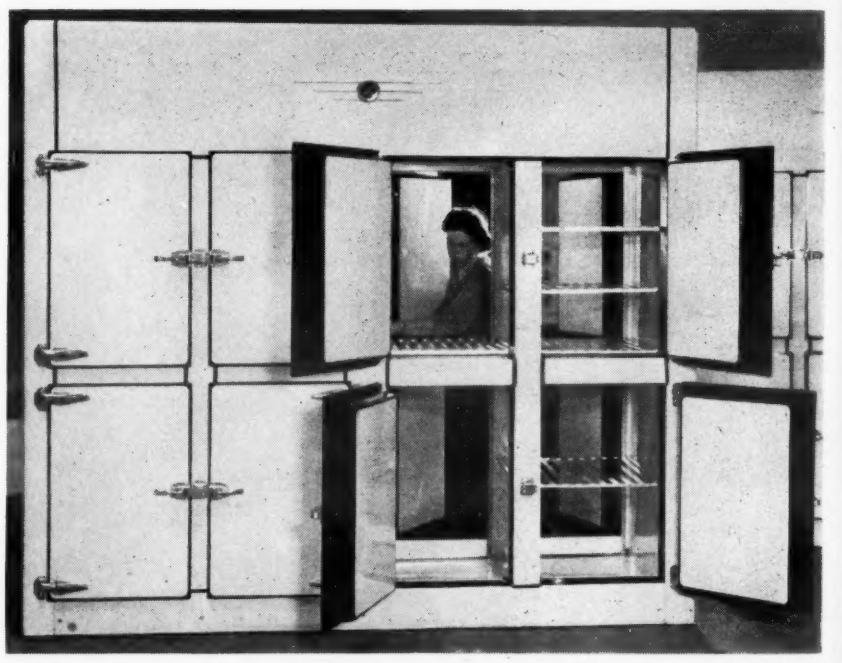
A sub-committee of the Senate Banking and Finance Committee has approved in substance the standards for control of prices previously adopted by the House of Representatives, and the review of existing price schedules is intended to eliminate confusion when final legislation is enacted.

"It is believed that no upward adjustments will be required in those cases where ceilings have been established or agreements reached on non-agricultural commodities," Mr. Henderson said. "These schedules and agreements are generally in accord with the standards established by the pending legislation and it is expected that the revisions to establish conformity will be minor.

"In the case of ceilings on agricultural commodities, some changes will be necessary to bring existing schedules into line with the special standards which have been set up for farm products. Three special standards were established for these commodities in the House bill."

Feeding America's War Workers

The employe's cafeteria at the Buick Aviation Engine Plant, Melrose Park, Ill., seats 2,000 at one time and is air conditioned.



This 16-door service refrigerator, one of three such units built for the new plant by the Resco Mfg. division of Refrigeration Sales Corp., Detroit, will be between kitchen and cafeteria to speed food handling.

* * *

Some Priorities Forms May Be Reprinted

WASHINGTON, D. C.—The Division of Priorities has issued the following statement relating to the reproduction of official forms and orders.

Reproduction of Priorities Division forms and orders is permitted **only** in accordance with the following:

Any application form, including form PD-1, may be reproduced.

Any report form, including inventory report forms, may be reproduced.

Any "M" order, "L" order, or "E" order may be reproduced.

As to "P" orders, two rules are to be followed:

1. If the order is issued to a general class of persons, and does not name any individual as the recipient of the order (as is the case in P-22, the Maintenance & Repair Order) the order may be freely reproduced in the same manner as "M" orders.

2. If the "P" order has been issued for the use of specifically named firms or individuals, it may be reproduced for use either by the individual producer or by his suppliers who are entitled to use the order, by the photo-offset or similar photographic process. Such copies must be identical in size and every other respect with the order as issued by OPM. Blank forms of "P" orders may be reproduced for informational purposes only when they are stamped "Specimen" or "Sample," so as to make it clear that the copy is for information only and not for use.

Purpose of these rules is to permit reproduction of forms and orders for (1) informational purposes, or (2) for purposes of applying for priority assistance, or (3) furnishing information to the OPM—but also to prevent reproduction of form and orders which might lend themselves to improper use.

Whenever any form required by the OPM is reproduced, for whatever purpose, it must be reproduced in the exact format, language, color, type, size, and phraseology of the original.

Cafeteria In New Buick Plant Air Conditioned

CHICAGO — An air conditioned cafeteria capable of serving 2,000 persons at a sitting, a ventilation system in the main manufacturing building designed to keep inside temperature within 10° of that outside, and a four-zone heating system all are part of the new plant just completed here by Buick division of General Motors Corp. for the mass production of aircraft engines.

Under normal operation this plant will produce 1,200-hp. Pratt & Whitney twin-row aviation engines for the Army Air Corps at the rate of 1,000 a month.

The cafeteria is located in the basement. Other space leading off basement corridors is occupied by service room, fan rooms, refrigeration equipment, and utilities.

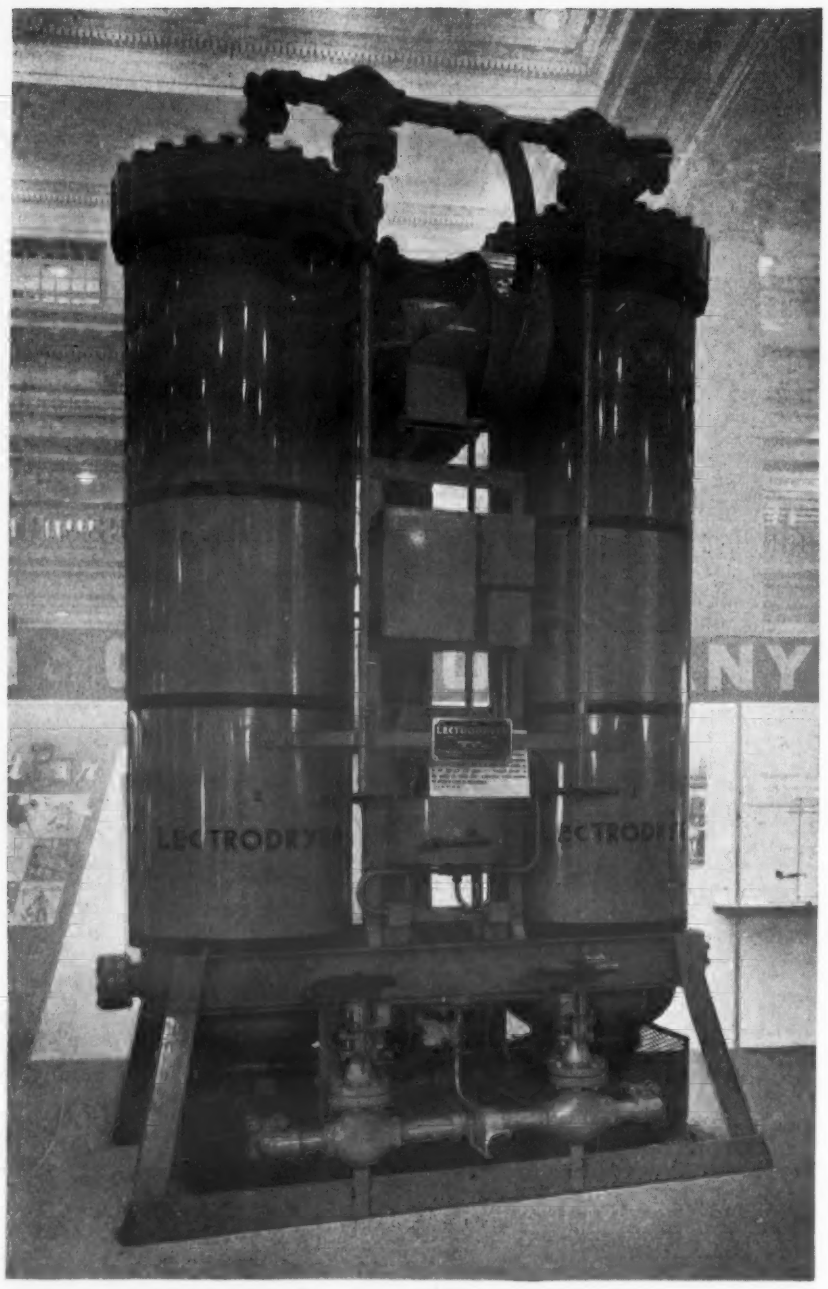
All food storage and service equipment for the plant's cafeteria is being furnished by the Resco Mfg. division of Refrigeration Sales Corp., Detroit, and includes 10 walk-in refrigerators and a fish case in addition to three specially made service boxes designed to facilitate food handling and speed up service.

The three service cases will be installed in corridors between the cafeteria and the kitchen, and will be used for storage of prepared salads, desserts, etc. Arrangements are such that one of the cases, a 16-door model, may be replenished directly from the kitchen without interference with the passage of workers into the cafeteria.

All service cases are all-porcelain, largest being 8½ feet by 3 feet by 7⅔ feet high, and the two others 7 feet by 3 feet by 7⅔ feet high and 6⅓ feet by 2½ feet by 7⅔ feet high, respectively. All cases are cooled by finned coils.

In addition to the three service cases and a fish storage box, walk-in coolers are provided for storage of meat, dairy products, vegetables, candy, sandwich ingredients, ice, individual units for the use of bakers, fry-cooks, and cooks, and a garbage storage unit.

On its way to the job...



This Lectrodryer, built by Pittsburgh Lectrodryer Corporation, stopped over at the Chemical Show in New York for a week's exhibition. But it moved right on again, and is now at work for a nationally known manufacturer of bottled gases.

Charged with Alorco Activated* Alumina, and working at a pressure of 600 pounds per square inch, this machine removes moisture from compressed gases to a dew point of −110° F.

You get this same efficient, dependable drying service on your refrigeration work when you employ cartridges and dehydrators charged with Alorco Activated Alumina. And, because Activated Alumina removes all acid and sludge from a refrigerating system, corrosion is prevented and wear is reduced.

Remember to specify "Alorco Activated Alumina". Your supply house can take care of your requirements. ALUMINUM COMPANY OF AMERICA (*Sales Agent for* ALUMINUM ORE COMPANY) 1908 Gulf Building, Pittsburgh, Pennsylvania.

*Registered trade mark.

These manufacturers supply cartridges and dehydrators charged with Activated Alumina:

American Injector Co. . . . Fedders Mfg. Company . . . Henry Valve Company . . . Imperial Brass Mfg. Co. . . . Kerotest Mfg. Company . . . McIntire Connector Co. . . . Mueller Brass Company . . . Cyrus Shank Company.

★ ALORCO ★

ACTIVATED ALUMINAS

DRY REFRIGERANTS DRY

ALORCO ALORCO

NEWS

About The New General Electric

Refrigerators

As this advertisement is being written, the United States has just been attacked. What the future may bring, no one knows. One thing is certain. There will be fewer refrigerators produced during 1942—but the new G-E's are equal in all ways and better in many ways than any refrigerators General Electric ever built.

NEW lower operating cost! Basically unchanged, but constantly improved, the famous G-E sealed-in-steel Thrift Unit now uses less current than ever before.

NEW lower cabinet temperatures for better food conservation and better vitamin preservation.

NEW improved G-E Butter Conditioner that keeps butter just right for easy spreading or creaming.

NEW diamond-hard gleaming white sanitary porcelain evaporator.

NEW tilt-type Dry Storage Bin with 14 per cent greater capacity than previous models.

NEW improved compensated controls, **NEW** gray Textolite door strips, **NEW** de luxe styling inside and out—plus Conditioned Air, Selective Storage Zones and all other proved G-E features for greater convenience and economy.

NEW simplified line of models with sound step-up selling features to attract every class of buyer.

AS ALWAYS, the finest and most complete line of electrical home appliances to draw upon for greater volume. You'll Always Be Glad You Sold General Electric!

GENERAL ELECTRIC

Trade Press Can Help Prepare Nation For All-Out War Production, Nelson Says

(Concluded from Page 1, Column 2)
made necessary the full industrial mobilization of America. It means drastic changes in our existing industrial economy. We must think only in terms of outproducing a powerful enemy; and anyone who underestimates the ability of the enemy to produce is kidding himself.

"Industry faces the prospect of producing either war material or goods absolutely essential to civilian needs. And civilian needs are going to be judged by this test: 'what is the very least the public can get along with?' This is going to involve dislocations—in some cases tragic dislocations—on a scale we never dreamed of until war became a fact. This job of industrial conversion is one which must be taken up, industry by industry; and preferably by industry itself. In this process, the business press can be most helpful in guiding industry by its advice, and seeing to it that the job is done intelligently."

The conference with Mr. Nelson was preliminary to the establishment of a standing committee of business paper editors to cooperate with the government in the war program.

Request for the conference followed discussion at a meeting of the National Conference of Business Paper Editors held in Chicago Dec. 9. At that meeting—two days after the attack on Pearl Harbor had changed America's defense preparations into an all-out war effort—the editors in attendance went on record as wanting to give their most effective support to the war effort, and voted to send to Washington a delegation representative of various divisions of the business paper field to learn how the industrial press could make itself most useful to the nation and to industry.

Present at the Washington meeting were: James Custer, Chilton Publications; Julien Elfenbein, Haire Publications; H. V. Kappel, Chicago; S. D. Kirkpatrick, "Chemical & Metallurgical Engineering"; G. F. Nordenholt, "Product Engineering"; H. C. Parmalee, "Engineering & Mining Journal"; H. J. Payne, F. W. Dodge Publications; Frank Steinback, Penton Publications; George Taubeneck, **Business News Publishing Co.**; Paul Trimble, Donnelly Publications; Douglas G. Woolf, "Textile World"; Paul Wooton, McGraw-Hill Publications.

These men will form the nucleus of an informal advisory committee which will cooperate with the government in various phases of the war program, particularly in the field of conservation. It will be a flexible committee, to which names will be added from time to time.

Following the conference with Mr. Nelson, the editors met with Robert W. Horton, chief of the Information Division of the Office for Emergency Management, who outlined ways in which the business press could be of assistance in the nation's war efforts. Their publications, he said, could help industry conserve vital materials at the source and could also, through case studies and otherwise, speed up salvage campaigns. They could be the medium through which industry could share its knowledge.

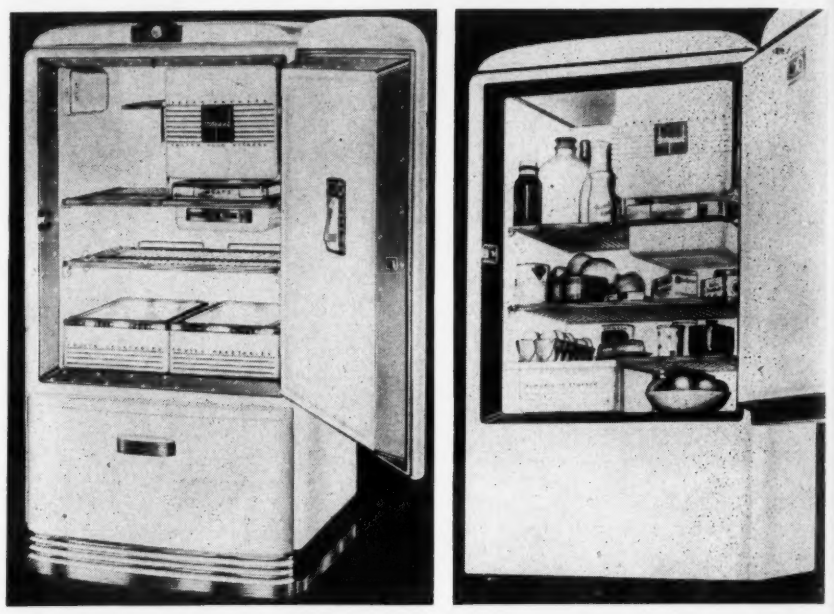
Speakers included Paul Wooton, president, National Conference of Business Paper Editors, who presided; T. W. Wilson, Jr., Chief, Campaigns Branch, Division of Information; Paul C. Cabot, Deputy Chief, Bureau of Industrial Conservation; Harvey A. Anderson, Chief, Conservation and Substitution Division; Dr. E. W. Ely, Chief, Simplification Branch; James T. Kemp, consultant, Revision of Specifications Branch; and George T. Weymouth, Chief, Industrial Salvage Branch of the Bureau of Industrial Conservation; and Dr. C. K. Leith, Consultant on Minerals, Office of Production Management.

Frozen Food Exposition To Be Held In Chicago

(Concluded from Page 1, Column 1)
Frosted Foods Luncheon. James M. Gwin of the U. S. Army's Quartermaster Corps will discuss "Quick Frozen Foods and the Interest the Army Has Taken in Them." Donald Barr of the Birds Eye organization will relate his latest findings in the field of consumer acceptance.

A feature of the Frosted Foods Luncheon will be a repetition of last year's "Stump the Expert" program, in which leaders in various branches of the industry will be asked questions pertaining to their field. Questions which the "experts" cannot answer will be referred to the audience.

Two New Hotpoint Models



Refinements of features introduced last year mark the 1942 Hotpoint refrigeration line. At left is the Deluxe Doric, a seven-foot model with twin crisper, butter conditioner, and air purifier. At right is the seven-foot Special Doric model, which has only one "hi-humidity" storage unit.

* * *

'Sevens' Spotlighted in 1942 Hotpoint Line; 'Butter Conditioner', Basic Features Kept

(Concluded from Page 1, Column 3)
8-cu. ft. Deluxe and Imperial Tudors (EC8 and ED8); the 12-cu. ft. Imperial Empire (ED12); and the 16-cu. ft. Imperial American (ED16).

The 7-cu. ft. Deluxe Doric, and the 8-cu. ft. Deluxe and Imperial Tudor models incorporate all Hotpoint convenience features. On these models the porcelain enamel Speed Freezer is located at the right. Freezer door is steel finished in porcelain enamel with an over-center spring to hold the door open, and carries a nameplate of translucent plastic. In these two models, the freezer holds ice trays with 80-cube total capacity, and a ½-gallon dessert tray. Defrost indicator at the side of the freezer shows when defrosting is necessary.

The 16-point temperature control is conveniently located in the top front of the cabinet.

The "butter conditioner," introduced last year, is located on the left wall above the top shelf. It holds 1 pound and is thermostatically controlled to keep butter at the proper spreading consistency.

Six-way cold storage compartment beneath the freezer may be used in six different positions for various storage requirements. It consists of a glass tray and porcelain enamel meat pan.

Two storage drawers with glass tops are standard in these models. Here fruits and vegetables may be kept at the peak of freshness.

Shelf equipment includes one gliding and adjustable tray shelf; two split shelves, and one top part shelf.

Other features in these deluxe models include an air purifier, located between the storage drawers, which absorbs strong individual food odors; a large bin for storing foods not requiring refrigeration, located in the unit compartment; a food safety gauge mounted inside the door.

These two models are of all-steel construction. Exterior finish of Deluxe Doric and Tudor models is baked Calgloss enamel on Bonderized steel. The interior Tudor finish is white porcelain enamel. Cabinet interiors are one-piece steel construction finished in white porcelain enamel, with reservior bottoms of acid-resisting porcelain. Other construction features are gray Textolite door strips, held by rust-proof screws; piano-type door hinges, and heavy latch of chrome-plated brass. Metal base grilles add to their beauty, and Thermocraft insulation is used.

On all other Hotpoint refrigerator models the cold control is located inside the door of the porcelain enamel freezer. The 6-cu. ft. Special includes three full-width shelves and a glass defroster tray, as does the 7-foot Doric model.

The 7-cu. ft. Special Doric includes the same shelf equipment, the six-way cold storage compartment, and a high-humidity vegetable drawer which is interchangeable with the lower split shelf.

EXCLUSIVE STORIES!

THE great thing about handling Crosley products is that you have *exclusive* features to sell.

The salesman on the floor has a unique, *exclusive* story to tell his prospects. The woman, shopping before she buys, can quickly see the extra values only Crosley offers.

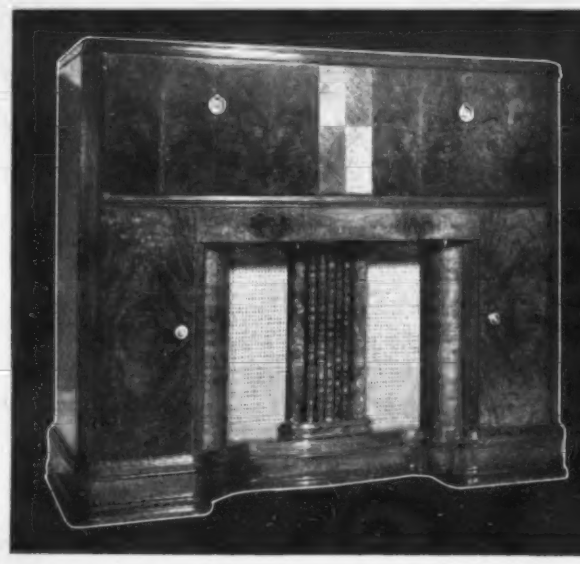
The Super Shelvador is still a brand new story to millions of women even though you may be used to it. "Twice as Much Food to the Front—within Easy Reach" is the dramatic Crosley way of calling their attention to this exclusive feature which is even more important in our lives now that wartime economy calls for conservation of food through more efficient storage.

And in radio-phonographs there's a story just as dramatic—the Crosley Floating Jewel Tone System with a patented permanent stylus that brings fullness of tone without the hiss and scratch of old-fashioned needle noise.

Short wave reception on Crosley radios will amaze you. News from all the world is yours—brought to you with the thrilling speed and reality that only a quality-built radio can offer.

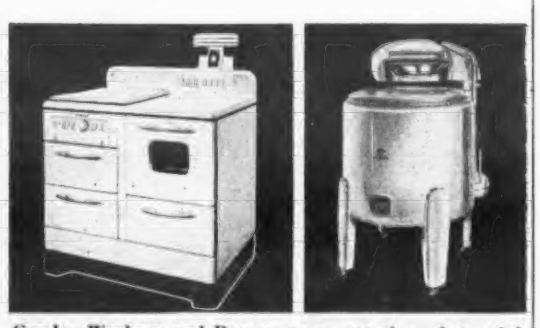
Crosley means features, *exclusive* saleable features, money-making features. Write, wire or phone today for further details on the Crosley wartime selling program.

MODEL SE-742 . . . Typical of the Crosley line is this quality built refrigerator. Giant meat chest holds 14 lbs. of meat . . . twin clear-vision vegetable crispers with plate glass covers . . . removable shelf in Freezor-cold for bulky frozen foods . . . 7 cu. ft. of convenient storage space. See the many deluxe features including stainless steel trim . . . heavy plate glass shelving . . . deluxe interior styling, etc.



The 1942 line of Crosley radios offers an exceptional profit opportunity. There are inexpensively superbly cabineted two-band sets and every set from the least expensive to the deluxe Model 22-CP, illustrated, offers the greatest value in both standard broadcast and international short wave reception. Only Crosley Glamor-Tone radios offer the patented Floating Jewel Tone System, the Master Tone Control, and Crosley FM with 14 exclusive Crosley features.

See the complete Crosley Line in Space 541-B and 542-B American Furniture Mart, Chicago, Illinois, during the Winter Market, January 5 to 17.



Crosley Washers and Ranges represent the substantial value buyers are demanding today. Their excellent construction, modern design and service-free operation combine with the well known Crosley name to present a real opportunity for aggressive merchants.

CROSLEY

AND DEFENSE

Crosley Research Engineering and Manufacturing facilities are contributing largely to the Government's victory program—Crosley is manufacturing Special Equipment for the U. S. Signal Corps, U. S. Air Corps, U. S. Army Ordnance Department, U. S. Navy, the Quartermaster Corps and Coast Guard Service.

THE CROSLEY CORPORATION

POWEL CROSLEY, *Jr., Pres.* CINCINNATI, OHIO

HOME OF WLW—*"THE NATION'S STATION"*—70 ON YOUR DIAL

St. Louis Dealers Turn To Other Products

(Concluded from Page 1, Column 1)
other customers inviting them to visit the showroom for the furniture department's formal opening, and gave away souvenirs of plastic screwdrivers.

"Since many of our customers have bought two, three, and even four appliances from us, we feel we have their goodwill sufficiently built up to insure we will realize furniture sales as well," Mr. May explained. "Most of our customers know why we added the furniture lines, and have promised to remember us at furniture buying time."

Another store going into furniture is the Milton Appliance Co. on Grand and Hebert Aves. Jack Milton, operator of the store, has anticipated 50% cuts in appliance deliveries by enlarging his showroom to accommodate complete furniture for all but living rooms. Dealer Milton, who set a record for the number of all-electric kitchens sold during two years in St. Louis, owns a "Ranch Home" in the suburbs to which he takes many customers to demonstrate all-electric kitchens, often selling complete $1,000 installations in a single evening. The Ranch House will fit equally well into furniture promotion, Mr. Milton believes.

Union Appliance Co., LeMay Appliances, Inc., and the Good Housekeeping Appliance Shop, all have bolstered their stocks with carpet sweepers during December.

Odlum Praises Washer Industry For Rapid Conversion To War

(Concluded from Page 1, Column 1)
engineering, and tooling equipment of each plant in the industry.

A "shopping list" of the material which the industry can produce is prepared. Army and Navy officials reveal what they need most at that time, OPM tells just what raw materials are available, and the industry selects what it believes it can produce best.

Specifications and drawings are prepared by engineers. These and the parts of the gun, or whatever the product is, are studied and demonstrated by an industry-wide conference, and individual firms decide just what parts they can produce.

If the industry can produce all or most of the item, all members of the group are supposed to agree on certain large operators to accept primary responsibility for necessary engineering skill, retooling of machinery, distribution of the work, etc. They then sign a government contract.

MUELLER BRASS CO.

Port Huron, Mich.

TRIPLE SEAL DIAPHRAGM VALVE

Longer Diaphragm Life

Positive Sealing at Three Essential Points

Insulation Value of Clothes Tested In Conditioned 'Lab'

MINNEAPOLIS — Using an air conditioning system to maintain close control over temperature and humidity, the University of Minnesota here is conducting research on the thermal properties of fabrics with human subjects.

Formerly the insulating qualities of fabrics and garments were tested by mechanical means. Fabrics to be tested were wrapped around a metal container filled with a liquid at a certain temperature. Cooling rate of the liquid in the "insulated" container provided an index to the insulating value of the fabrics.

A room of 560 cu. ft. size, held to pre-determined temperature and humidity conditions, is being utilized by the University of Minnesota for its tests. A thermostatically controlled 1-hp. "Freon-12" unit provides the necessary cooling or dehumidifying for the room. Temperatures can be maintained with a variation of only ½° either way as low as 32° F. and can be raised to 100° F. by a 2,000-watt nichrome coil heating unit, which is controlled by the same thermostat controlling the refrigeration unit.

Humidity conditions are controlled by a humidistat, which governs both the refrigeration unit when cooling is needed for dehumidification and a nozzle spray when increase in humidity is required. Humidity is maintained with a variation of no more than 5% plus or minus from a set point.

In conducting the tests, the subjects' bodies are first heated by diathermy to a fixed temperature—usually normal human temperature. The subjects are then placed in the test room wearing the clothes to be tested. By means of thermocouples the rate at which the body cools is determined, providing an index of the insulating value of the given fabrics.

First tests are being made with cooling, starting with men's undergarments. Later it is planned to study the heat-radiating properties of garments and fabrics, for which artificial heating will be required to simulate summer conditions.

Cooling Widely Used In New Restaurant

CHATTANOOGA, Tenn.—The extent to which refrigeration and year-around air conditioning are utilized in the modern restaurant is illustrated in the Interstate Glass House Restaurant, opened a few months ago at the foot of Lookout Mountain here. The refrigeration and summer air conditioning equipment were supplied by J. W. Brooks & Sons, of Chattanooga, Carrier dealer, and the oil-fired heating plant, plumbing fixtures, and piping by Knoedler & Meredith Plumbing & Heating Co.

Summer air conditioning for the dining room is provided by a 10-hp. Carrier self-contained unit. Condensing water at 58° F. is supplied by a 200-foot deep well on the premises. Chilled water coils in connection with the conditioner also help to do part of the actual cooling.

The kitchen is equipped with two walk-in coolers, 7 by 12 feet in size. The rear 4 feet of one of these coolers is a separate compartment, equipped with Dole plates and cold diffusers for sharp freezing. A 1½-hp. compressor is used to power the sharp freezer. In addition there are three other compressors of the same size, one being for the bakers' refrigerator, one for the salad cabinet, and one for the two instantaneous-type water coolers. These compressors use heat interchangers to increase their capacity.

This Drug Store Even Sells Conditioners

PITTSBURGH — The old saying that "you can get anything at the drug store" comes close to being true in the case of Strader's Pharmacy here. James L. Strader, proprietor, has taken on a line of unit air conditioners as a part of his "service" to professional men in his neighborhood. One of his customers bought three units, it is reported.

Broadside Describes P-H Beverage Coolers

GRAND HAVEN, Mich. — Puffer-Hubbard's 8-model line of dry beverage coolers is described and illustrated in a new broadside just released by this company.

Among the features highlighted in this promotion piece are the P-H patented circulating system, temperature variance of no more than 2° plus or minus, adjustable removable partitions, roller-operated doors, and special cooling shelf above the machine compartment for glasses or package goods.

This cooler is offered in 6, 8, and 10-foot lengths, all of which are self-contained. Capacities, in 12-ounce bottles, range from 384 to 768.

Feature of the mechanical unit is the fact that it can be pulled out of its compartment for ease in adjustment or service.

Cabinets of the P-H coolers are designed for placing against the wall or under a bar, or even as an island counter.

Patronage of Market Rises as Management Requires Use of Modern Refrigerators

LOS ANGELES — By requiring that all tenants have modern, sanitary refrigeration facilities equipped with thermostatic controls, the Grand Central Public Market here has greatly increased its patronage in the last couple of years.

One of the first so-called public markets in the United States and still one of the largest in the nation, Grand Central had been on the decline for several years as a result of the general trend toward decentralization in the metropolitan area. Traffic congestion and a lack of parking facilities downtown enabled the numerous new neighborhood marketing centers to offer some tough competition.

As volume dropped off in the Grand Central market due to these conditions, many of the tenants allowed their equipment to become "run down." That condition resulted in a further drop in patronage.

When the present management took over two years ago, traffic had dropped to about 190,000 people per week, a figure far below the previous peak. As a result of modernization and of rigid new tenancy qualifications, the traffic figure has now been built back to an average of 250,000 per week, and is still increasing.

One of the first steps taken by the new management was to require that all tenants equip their refrigerators with thermostatic controls. Wherever a tenant had completely outdated equipment, he was required to either replace it or have it rebuilt to modern, sanitary specifications.

Present lease forms used by the company give the market management full leeway in enforcing rigid sanitary requirements. A market superintendent, an assistant, and a floormaster make a daily check of all physical facilities as well as of merchandising practices.

New Unit Designed To Cool Candy

EAST PITTSBURGH, Pa.—Solving the problem of refrigerating candy on the open shelves of display cases in theater lobbies, Westinghouse has devised a system whereby a ¼-hp. compressor unit and a small but high speed fan are mounted in the base of the case.

Properly chilled and humidified air blown through concealed jets directly onto the candy compensates for the heat load built up by the warmth of the theater lobby and the heat of the floodlights illuminating the case.

Compressor unit is of the kind used in window-type air conditioners, but is shortened to fit the space.

28 Water Coolers Installed

BEAVER, Pa.—Twenty-eight electric water coolers, four of them of ⅓-hp. capacity and the rest of ¾-hp. size, have been installed in Curtiss-Wright Corp.'s huge new airplane propeller plant here by Valley Sales & Service Co. of Pittsburgh.

Deepfreeze

The Modern Appliance for QUICK-FREEZING and STORING

Meats, Poultry, Fish, Game, Sausage, Fruits, Vegetables, as well as Butter, Lard and Ice Cream

• The refrigerator only retards food spoilage. Deepfreeze *prevents* food spoilage...keeps food sweet and wholesome for indefinite periods....And too, Deepfreeze quick-freezes fresh foods and preserves them perfectly at sub-zero temperatures. It has proven its value and economy in farm and city homes, food shops, restaurants, taverns, roadside stands, resorts, institutions—wherever food is served or sold.

Deepfreeze has created new interest in frozen fresh foods. It begins where the locker plant leaves off by providing auxiliary, below-zero storage at point of consumption. Saves trips to the locker—permits the purchase of foods in quantities and safely preserves them for months.

DEEPFREEZE Sub-Zero REFRIGERATED TRUCKS are available for delivery of fresh frozen food to the retail outlet or the consumer's door.

THERE IS ONLY ONE Deepfreeze

A finely-engineered product designed especially as a quick-freeze and food storage unit. Has many exclusive advantages.

- LOWEST TEMPERATURES—Zero to 20° below.
- LARGEST CAPACITY—Two full barrels of frozen foods may be stored in the double unit.
- ALL STORAGE SPACE—No shelves or compartments.
- OPENS AT TOP—The intense cold, heavier than outside air, will not flow out as it does from a side-opening unit. Cover can be left open without causing appreciable change in temperature.
- MORE PRIMARY FREEZING SURFACE—Food surrounded by a complete wall of freezing surface. Food does not dry out because there is no air circulation.

WRITE FOR COMPLETE INFORMATION

DEEPFREEZE DIVISION, Motor Products Corporation

2320 Davis Street, North Chicago, Illinois

Air Conditioning & REFRIGERATION NEWS

Trade Mark registered U. S. Patent Office;
Established 1926 and registered as
Electric Refrigeration News

F. M. COCKRELL, *Founder*

Published Every Wednesday by
BUSINESS NEWS PUBLISHING CO.
5229 Cass Ave., Detroit, Mich.
Telephone Columbia 4242

Subscription Rates
U. S. and Possessions, Canada, and all countries in the Pan-American Postal Union: $4.00 per year; 2 years for $7.00. All other foreign countries: $6.00 per year. Single copy price, 20 cents. Ten or more copies, 15 cents each; 50 or more copies, 10 cents each. Send remittance with order.

GEORGE F. TAUBENECK,
Editor and Publisher

PHIL B. REDEKER, *Managing Editor*
THEODORE T. QUINN, *Assistant Editor*
C. DALE MERICLE, *Assistant Editor*

JOHN R. ADAMS, *Business Manager*
JAMES B. SMITH, *Advertising Manager*
PAUL PARK, *Asst. Advertising Mgr.*
JIM MCCALLUM, *Circulation Manager*
M. HELEN COCKRELL, *Credit Manager*

On leave of absence for military service:
RICHARD J. NEUMANN, GEORGE L. COLLINS, ROBERT P. NIXON, JACK SWEET, GEORGE M. HANNING, and ED HENDERSON

Member, Audit Bureau of Circulations
Member, Associated Business Papers

VOLUME 35, NO. 1, SERIAL NO. 668
JANUARY 7, 1942
Copyright, 1942, Business News Publishing Co.

Refrigeration Will Help Win the War

The 'Victory' Refrigerator . . . Other Prophecies

PROPHETS are said to be without honor in their own land. This is particularly true when the prophets forecast unpleasant news. We speak from experience; for it has been our gloomy duty to predict in this column reverse after reverse for the appliance industry during the last year.

Unhappily, all have come true. Our fellow editors have been laughing at us, jokingly referring to the "REFRIGERATION NEWS bear stories." We didn't like those "bear stories," either. But so high were our sources of information that we felt sure these "bear stories" were coming true; and it was our duty to our industry to report them.

Last year at this time we predicted the biggest buying wave in the history of the industry, plus impending shortages of aluminum, copper, zinc, rubber, cork, and steel. (This, in January, when Stettinius was saying that even aluminum supplies were "adequate.")

Forewarned, everyone from manufacturers through wholesalers to dealers and service men laid in the biggest stocks ever, and the industry was able to meet the unprecedented demand for its products—except for repair parts and supplies, which began to run out during the third quarter.

By midyear we were forecasting the eventual extinction of the appliance industry, with the date for the dying gasps scheduled for July, 1943. That prediction did bring an avalanche down on our heads. But we repeat it now—with this change: the obituary will be read approximately one year earlier. That's what Pearl Harbor means to this industry.

Last year at this season we happily predicted that household refrigerator sales would pass three million units in 1941 (which they did, handsomely).

For 1942, it is our sad prophecy, production of household electric refrigerators may not be allowed to pass 800,000 units. This throws the industry back to 1928 in terms of unit volume.

It is our further dolorous prediction that the bulk of this production will be turned out in the first quarter, or possibly the first four months, of 1942. After that, a strange thing may happen to the refrigerator business—a phenomenon which will likely be repeated in the case of other household appliances. Here it is:

Refrigerator production will be confined to one or two models, produced in one or two factories.

PRODUCTION MAY BE ONLY 100,000 A YEAR

This one model will be called the "Victory Refrigerator," and probably be identified with a large "V" on the door. It may have a wooden, or possibly a plywood, cabinet. *Production may be less than 100,000 units per year.* Sales will be strictly rationed, as in the case of automobiles and tires.

Pause for breath.

Now, before you start writing us angry letters, asking when are we going to give up opium, and why do we persist in trying to scare everyone to death, look back on our record of predictions-come-true for 1941. Are we crazy? Look at the record.

Who will make this "Victory" refrigerator? That may be left up to an industry advisory committee to decide. Who will sell it? Now there is a question! Obviously, the number of franchises must be limited drastically. Establishing a basis for qualification as a licensed vendor will be a real problem.

Will this "consolidation of industry" plan be applied to other household appliances? Quite likely!

During the last six months the writer has made talks before various industry gatherings in New York City, Buffalo, Cincinnati, Milwaukee, Detroit, Pittsburgh, and Toledo. In each case he has tossed out this idea (that production would be confined to a standard model, made by one or two manufacturers only). Usually the reaction was a roar of guffaws. Sometimes it was a stunned, blank silence, an incredulity.

Now, at the suggestion of one of the chief executives in SPAB, we are publishing the idea here. Maybe it won't come to pass. But it's in the cards.

DEALERS SHOULD BUY ALL THEY CAN GET

What's the average dealer or distributor to do about it? Buy all the refrigerators he can get his hands on as fast as he can get them! Squeeze refrigerators into every available square inch of floor space. Put 'em in your parlor at home, if necessary.

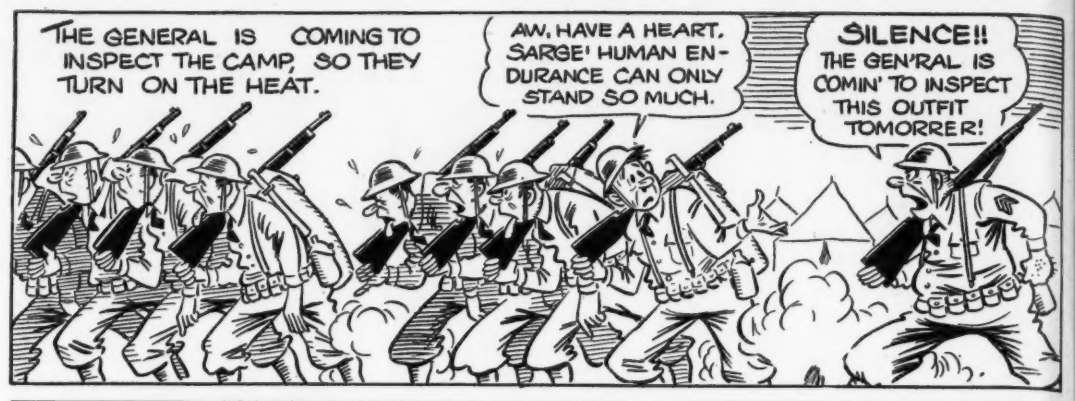
Refrigerators may still be had, for awhile. Business will be good—and profitable—for awhile. Just because the whole applecart is to be upset eventually is no reason for closing up shop *now!* You'll need all the volume and profits you can get this first quarter.

Necessity for stocking up on other appliances is not quite so acute just now, unless you have an amplitude of warehouse space and financing. Their turn will come later.

What of the second half of the year? There are a number of different roads for the specialty dealer to take. These will be explored in future issues of the NEWS—in sufficient time, we hope, for you to do something.

The job for today is: sell all the refrigerators you can get!

They'll Do It Every Time . . . . . By Jimmy Hatlo


THE GENERAL IS COMING TO INSPECT THE CAMP, SO THEY TURN ON THE HEAT.
AW, HAVE A HEART, SARGE! HUMAN ENDURANCE CAN ONLY STAND SO MUCH.
SILENCE!! THE GEN'RAL IS COMIN' TO INSPECT THIS OUTFIT TOMORRER!
THE GENERAL.—
PHOOM!!
JIMMY HATLO
1-5
Copr. 1942, King Features Syndicate, Inc., World rights reserved.

Two Hatlos —Hooray

LAST WEEK we were forced to omit the usual "They'll Do It Every Time" cartoon by Jimmy Hatlo —a weekly feature of this page for almost two years.

Reason was that we wanted to include the important correspondence from subscribers in London and Singapore all at one time.

This week we hasten to make restitution. There are *two* Hatlo cartoons on the page this time—last week's as well as this week's laugh.

An opportunity thus presents itself to pay tribute to Jimmy Hatlo who, better than any other cartoonist, understands and portrays the humor in business. Some day we'd like to publish his collected works in permanent form.

Experience in England shows that humor is more important than ever during the desperately serious business of making war. "Britain can take it" partly because the British can laugh at their own troubles. Admittedly, then, Jimmy Hatlo is making a genuine contribution to America's morale.

LETTERS

'THE NEWS IS MY RABBIT'S FOOT'

1523 Sixth Ave.
Bradenton, Fla.

Editor:

The NEWS is my rabbit's foot. I wrote you some time ago and you printed my letter. Then you wrote me inviting me to write more. Not long ago I wrote you again and you printed that.

My copy of the NEWS arrived at 10 a.m. About 11 a.m. the Florida Power & Light Co. man from Sarasota, Mr. Wackerly by name, called on me with his camera. He insisted that I line up behind my lathe and act like I was working. Then he took my picture, explaining that he was going to put the last article I wrote for the NEWS, and my picture in the Light Co.'s paper. They are laying heavy on service in their periodical.

Shortly after noon the phone rang and I received a nice service call from a town 10 miles away.

And upon my arrival home for supper my wife handed me a letter from another magazine containing an unsolicited offer to pay me for articles if I would write them.

Now if the NEWS will just tell me how to get ideas and words to frame them with, I will be all set. I might turn out to be a service man yet.

A. R. POOL

'I HAVE A BOX THAT SHOCKS ONE'

720 Fourth Ave.
New Kensington, Pa.

Editor:

Could you tell me of a reliable Grunow service man that I could get in touch with near St. Augustine, Florida?

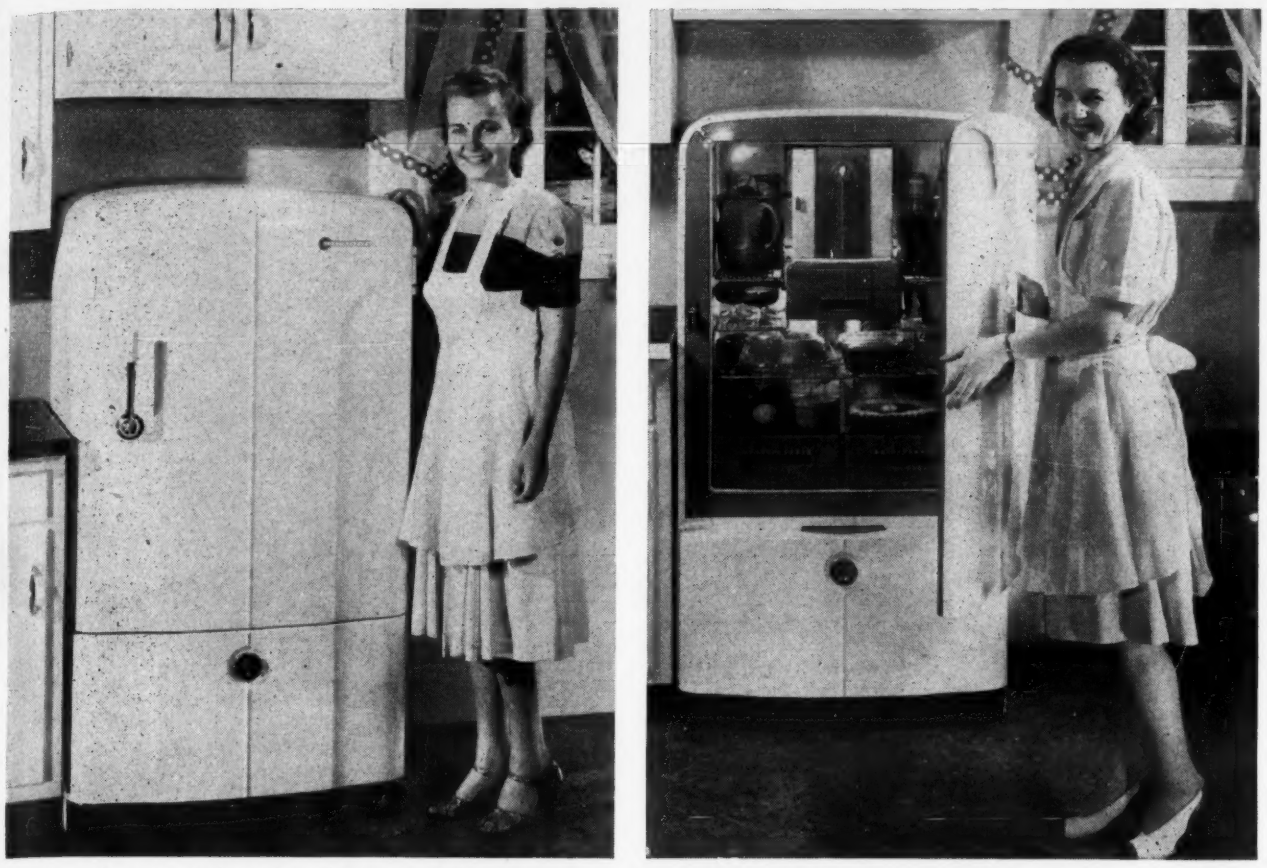
I have a box that shocks one when taking the trays out.

J. B. SELLERS

They'll Do It Every Time . . . . . By Jimmy Hatlo

IT'S A CINCH! SAY WE DEDUCT TWO HUNDRED THOUSAND FOR DEPRECIATION AND TAXES - ANOTHER HUNDRED THOUSAND FOR OVERHEAD—
SURE, SUPPOSE WE ONLY NET TEN PERCENT. THERE'S FIFTY THOUSAND A MONTH OR SIX HUNDRED GRAND PER ANNUM—
YOU'D BETTER GET 'EM A NEW TABLE-CLOTH, RUDY, OR THEY'LL BE DOWN ON THE FLOOR NEXT
YEH, MILLIONS! MILLIONS THEY LEAVE ON THE TABLE-CLOTH, BUT ONLY A TEN-CENT TIP FOR ME
IT'S A GOOD THING THE BOSS ISN'T HERE. THAT GUY IN THE CHECK SUIT GAVE HIM A RUBBER CHECK FOR TWO BUCKS YESTERDAY
ALL THAT AND FIVE CENTS WILL BUY ME A GLASS OF BEER
JIMMY HATLO
12-15
THE FIGURES ON THE TABLE-CLOTH HAVE LITTLE TO DO WITH THE SIZE OF THE TIP.
THANX TO RUDY PEREZ - SAN FRANCISCO
Copr. 1941, King Features Syndicate, Inc., World rights reserved.

The Dolly Madison Seven Leads Westinghouse Line



Leader of the refrigerator line introduced for the new year by Westinghouse Electric & Mfg. Co. is the Dolly Madison Seven, shown above. As in last year's models, color is used extensively by Westinghouse for the interior of its refrigerators.

* * *

6-Model Refrigerator Line Introduced By Westinghouse for 1942; New Features Added Despite Wartime Substitutions

(Concluded from Page 1)

storage bin located at the bottom of the unit, which opens outward without the necessity of opening the refrigerator door.

Full-size evaporators are provided on all models, and the meat keeper and crisper compartments are retained. The meat-keeper is a feature of five of the six models in the line.

The "True-Temp" control system, which permits holding the temperature of the food compartment at any desired point between 32° and 50° F., has been extended to all models in the line. This control also has a "coldest" position at which the refrigerator operates continuously for rapid freezing of desserts or ice cubes.

Westinghouse "Informative Labels," which first appeared on the 1941 models, are continued this year. These labels describe the basic construction features of the model and contain information about the various devices and materials used.

Top model in the line is the Dolly Madison Nine, a 9.3-cu. ft. unit which is claimed to use no more current than last year's 8-foot models. Exclusive features of this model include a special frozen storage space, a humidrawer which fits in under a glass shelf and contains an egg basket, an adjustable shelf, sliding shelves, a foldaway shelf, and a self-closing door hinge.

The Betsy Ross Nine is equipped with a large super-freezer, a sliding meat storage compartment, and a drawer-type crisper. Two adjustable shelves permit storage of such large containers as a five-gallon milk can, it is claimed. This model is also claimed to contain one-third more storage space than a full 7-foot model.

Interior decoration of turquoise blue marks the Dolly Madison Seven, which provides ample space for storage of tall bottles, it is said. Twin crisper compartments are claimed to permit storage of more than a half bushel of fresh vegetables and greens.

Leader of the 1942 line is the Betsy Ross Seven, which, as a 6-foot model, was the most popular in the 1941 Westinghouse line. It has an all-purpose storage bin and dropaway and liftout shelves, as well as a quarter-bushel glass-topped crisper for vegetable storage.

Other models in the line are the American Special and the Economy, both 7-foot units. The American Special has a large meat storage compartment, sliding crisper, and new easy-access shelves. The Economy Seven is a standard model with all-steel cabinet, complete with the "True-Temp" control, and contains 11.7 sq. ft. of shelf space. The interior color motif is garden green.

Shelf Is Hinged

Here is the hinged shelf, a new Westinghouse feature that helps make possible 16 different shelf arrangements.

Rental Plan Attracts Defense Workers

Many Renters Decide To Buy Appliance

MISSOULA, Mont.—Defense construction workers who have flocked into this city have been developed into good appliance prospects by James Meyers, head of the Missoula Mercantile Co., who offers these newcomers a "daily rental plan" on reconditioned appliances.

The store is currently running a daily newspaper advertisement which offers reconditioned refrigerators, electric ranges, gas ranges, and washing machines to any locally employed person for daily rentals ranging from 9 to 20 cents.

More than 50 reconditioned units of each appliance are kept on display, gaining much attention from defense workers. Rentals and sales of these appliances have been so great, however, that the firm has been forced to recondition a large number of "junk" trade-ins, which otherwise would never have been resold.

Many of the renters, Mr. Meyers said, soon discover that paying 9 to 20 cents a day rental is equal to buying the appliance on terms. They then purchase the unit.

Others, coming into the store to inquire about the rental plan, immediately note the comparative costs of renting and buying, and pass up the rental plan for outright purchase.

N.Y. Christmas Sales Below Expectations

NEW YORK CITY—Sales of electrical appliances in the New York area during the Christmas rush were slower than expected, distributors here report. Instead of having their stocks completely sold out, stores are said to have fair amounts ready for 1942 selling.

Fearing shortages, retailers did not promote appliances as heavily as formerly, and trade in general was slower. Distributors think that the big increase in prices of small appliances also cut down sales.

'Advance Orders' May Maintain Stocks

MILWAUKEE—Edward A. Zahn, major appliance buyer for the Boston Store here, has developed an "advance order" system for 1942 in an effort to assure his department an ample stock next year. The store now is encouraging prospective customers who feel certain that they will have funds to purchase appliances in 1942 to order now, compiling a long list of orders which can be used to demonstrate to appliance manufacturers that the store is deserving of larger shipments. "We intend to maintain a stock three or four months ahead, if possible," Mr. Zahn explains, "and the only way to do this is to prove, in advance, that we can get the business."

Minnesota Buys 4,000 Units In 10 Months

DULUTH, Minn.—Sales of electric refrigerators totaled approximately 4,000 units in Minnesota Power & Light Co. territory during the first 10 months of this year, according to reports of dealers to the utility.

All major appliance sales showed substantial gains over comparable 1940 figures, with electric range sales being almost double those of the preceding year. Following is a comparison of 1940 and 1941 figures for 10 months:

	1941	1940
Refrigerators	3,999	2,663
Ranges	1,446	788
Water Heaters	513	329
Washers	2,615	2,226
Ironers	192	123
Cleaners	1,464	962

New Frigidaire Booklet Stresses Importance of Refrigeration

DAYTON, Ohio—The importance of adequate mechanical refrigeration in the present war-time emergency is explained in a booklet now being distributed by Frigidaire entitled "Do you keep a COW in your backyard?"

In language that brings the facts home to the consumer, this booklet points out how electric refrigeration saves money, food, and family health. Statements issued by departments of the United States government and other authorities are reprinted, and the part played by refrigeration in the army camps and war-time housing projects is described.

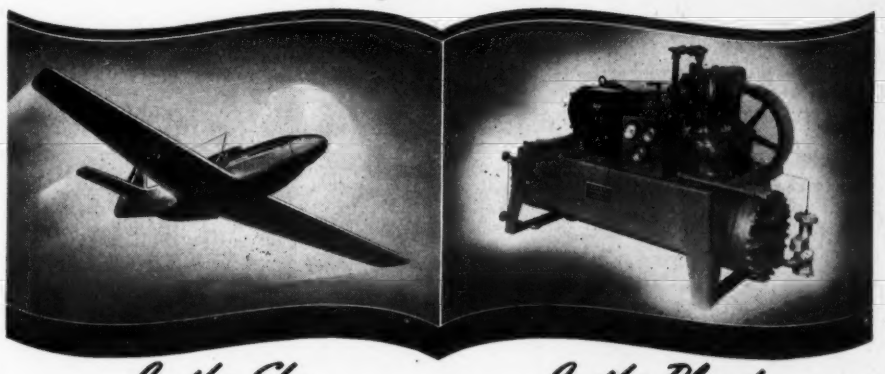
In addition to these facts, there is included a list of U. S. government suggestions to the American housewife about the way she should use her refrigerator, and one means by which she can help to conserve electric power.

"Do you keep a Cow . . .?" is designed to prove to the housewife that electric refrigeration is not a luxury, but a necessity of present-day life.

Dallas Dealership Moves To Larger Quarters

DALLAS, Tex.—Appliances, Inc., retail dealership specializing in "electric home" equipment here, has moved from the former store location to a larger showroom and office at 2500 South Ervay St. C. E. Morris is president of the company.

KEEP 'EM Flying!



In the Sky — In the Plant

Install BAKER Equipment for Dependable, Low-cost Refrigeration

Keeping food processing and storage plants operating at peak efficiency is just as essential to the winning of this war as keeping airplanes rolling off the assembly line and into the sky.

The importance of proper nutrition as a National Defense measure for both soldiers and civilians has not only been recognized but strongly emphasized by the Federal Government.

It is doubly essential, therefore, to keep refrigeration equipment in food processing and storage plants functioning at peak efficiency; to eliminate costly delays due to frequent servicing, repairs, or adjustments; and to secure the lowest possible operating cost.

BAKER Refrigeration meets all these requirements. Perfect balance, honed cylinders, full force feed lubrication, Timken roller bearings, precision manufacture, and finest materials for every part have made BAKER world-famous for unusually efficient, low-cost, trouble-free operation. BAKER equipment also offers many other important advantages including unusually small floor space requirements; quick, easy installation; and complete range of sizes.

Get full details regarding BAKER Refrigeration by writing, wiring, or phoning today.

BAKER ICE MACHINE CO., INC.
1506 EVANS ST. OMAHA, NEBR.
SALES AND SERVICE IN PRINCIPAL CITIES

BAKER ICE MACHINE CO., INC.
AUTHORITY ON MECHANICAL COOLING FOR 37 YEARS

HERE'S WHY: PURE and DRY!

DU PONT METHYL CHLORIDE

Get your free copy of 92-page manual on methyl chloride use

DUPONT
Artic
REG. U. S. PAT. OFF.

For information about nearest source of supply, write to
THE R. & H. CHEMICALS DEPARTMENT
E. I. DU PONT DE NEMOURS & CO. (INC.)
Wilmington, Delaware
or National Ammonia Division
Frankford P. O. Philadelphia, Pa.

Presenting the

FINEST KELVINATORS EVER BUILT!

PRODUCTS OF A "RETAIL-MINDED" ORGANIZATION

FOR 1942, retailers throughout the nation will be able to present the finest refrigerators ever to bear the name Kelvinator.

Not merely as good as the fine refrigerators of last year, but definitely improved! More beautiful—thanks to the use of colorful plastics and modern styling. More soundly engineered—thanks to intensified research and the use of new materials! New in size! More potent in selling appeal! More than ever influenced by the "retail-minded" thinking that dominates Kelvinator's approach to every manufacturing and selling problem!

The 1942 Kelvinator line consists of four 7 and two 9 cu. ft. refrigerators. It provides a model to meet the needs of every customer — with a minimum inventory requirement for the retailer.

This 1942 line continues the enormously successful step-up plan inaugurated by Kelvinator in 1940. Each step-up in *price* represents a definite and obvious step-up in *value*.

And for "top-of-the-line" selling, the Moist-Master models provide an important contribution to the nation's food conservation program.

In actual operation, they cut down food bills–prevent waste–supply better and more wholesome food to the table. It is our sincere conviction that the 1942 Kelvinator Moist-Master offers the greatest refrigeration service ever developed. We believe that this is *the* refrigerator of today, *and tomorrow*.

AND HERE IS AN INTERESTING FACT: With more features, more storage room, more value in every respect—and in spite of increased costs and production curtailment —Kelvinator prices for 1942 are up to $30 below prices that existed on comparable 1939 models before Kelvinator's new program revolutionized the industry in January, 1940.

KELVINATOR HELPS AMERICA ARM . . . Nash-Kelvinator is now working on contracts for more than a hundred million dollars' worth of airplane propellers, engine parts and other materiel for America's war effort.

NASH-KELVINATOR CORPORATION, PLYMOUTH ROAD, DETROIT, MICH.

FOUR 7 CUBIC FOOT—TWO 9 CUBIC FOOT MODELS

Model SS-7... Here's where the "step-up" starts. Model SS-7. A beautiful, new Kelvinator — 7 cubic feet big—with welded steel cabinet—one-piece top and sides. Beautiful, easy-to-clean "Cold-Ban" around the door frame . . . recessed Polar Light . . . High-speed Freezer . . . 13-setting Kelvin-Control...Polarsphere Sealed Unit. And the price is **$149.95***.

Model S-7... An easy, logical step takes us to Model S-7. New — completely equipped — and 7 cubic feet big. Oversize, sliding Crisper with crystal-clear glass cover. Big, sliding Meat Chest. Big Vegetable Bin. And the 5-Way Magic Shelf. Obvious, added value at **$174.95***.

Model S-9... 9 cu. ft. size. And the price is **$219.95***.

Model R-7... And now we come to Model R-7. A 7 cubic foot Kelvinator—with de luxe beauty, equipment and convenience. Two big, glass-covered Crispers instead of one. 50% greater ice-freezing capacity. Removable freezer shelf. Extra room for frozen foods. Moonstone Meat Chest. Obvious extra value—which fully justifies the price of **$189.95***.

THE KELVINATOR "MOIST-MASTERS"

Models M-7 and M-9

Here is the greatest Kelvinator ever built — the Moist-Master. Shelves of crystal-clear glass and an extra set of Cooling Coils concealed in the walls provide super-moist cold for vegetables and uncovered leftovers — moderate moist cold for fruits and meats — dry cold for bottled foods. The lower section of the cabinet is enclosed behind glass doors — forming the Cold-mist Freshener compartment. A superb model for top-of-the-line selling. Price, **$219.95***.

Model M-9 is in 9 cu. ft. size. Price, **$259.95***.

*Prices suggested are for delivery in the kitchen with 5-Year Protection Plan. State and local taxes extra. Prices slightly higher west of the Rockies. **Prices and specifications subject to change without notice.**

Get More—

Get **KELVINATOR**

REFRIGERATORS • ELECTRIC RANGES

Appliance Booklet To Aid Teachers

MANSFIELD, Ohio — A 32-page booklet filled with concentrated facts on purchasing, use, and care of electric home appliances has been published by the merchandising division of Westinghouse Electric & Mfg. Co.

Especially prepared as an aid to teachers of home economics and household management, the book is dedicated in a foreword by Julia Kiene, manager of Westinghouse's home economics department, to all those present and future American homemakers faced with the task of buying food correctly, preserving it properly, and cooking it scientifically.

Leading off with a condensed summary of kitchen planning ideas, illustrated with diagrams of different types of kitchens, the booklet continues to discuss each major appliance separately (starting with the electric refrigerator), giving something of its historical background, listing its uses, describing its care, and emphasizing its importance to modern living.

Tips on what to look for when buying these appliances also are given.

The Machine For Your Next Job...
If it's a refrigeration job ...no matter how big or how small...we can supply Lipman equipment to fit the specifications. Let us work with you.
GENERAL REFRIGERATION DIVISION
Yates-American Machine Co.
Dept. AC-3, Beloit, Wis.
Model 153 Water-cooled Machine
Lipman

No Joints! No Leaks

This Rome Jointless Water Cooled Condenser is a typical example of Rome's ability to provide trouble free condensing equipment. Rome Water Cooled Condensers are used by many leading compressor manufacturers. Write for complete information.

ROME-TURNEY RADIATOR COMPANY
222 Canal Street
ROME, N. Y.

Allocations To Dealers, Other Problems Discussed At Milwaukee Meeting

MILWAUKEE—Some 85 members and guests of the Wisconsin Radio, Refrigeration & Appliance Association met Dec. 29 at the Hotel Astor here in a holiday luncheon meeting designed to permit discussion of the problems which face appliance distributors and dealers in 1942.

In general, the opinion seemed to prevail that no critical problems were likely to be faced in the first quarter—that inventories and deliveries scheduled would take care of anticipated demands. Beyond the first quarter, none ventured to predict much of what might happen.

Distributors here have been "allocating" to their dealers for some time, and in informal discussions it developed that a popular method of setting up an allocation plan is that of having each distributor salesman determine the quota for the particular group of dealers that he serves. Reason for this is that it is felt that the salesman would know best the character of the dealer and the amount of merchandise he should be allotted.

Milton Peters, representative of Electrical Workers Union B-1092 (A.F. of L), which includes refrigeration and radio service men, declared that the present emergency is bringing a shortage in skilled workers that will become more serious as time goes along, and asked for measures to insure the "efficiency" of service operations.

Mr. Peters suggested a program that would help to bring about this efficiency, built around these major ideas:

1. The appointment by the dealer-distributor association of a technical committee to educate the service men on new techniques and the servicing of new models.

2. Purchase of better and more modern service tools and service machines by the dealers.

3. Adoption of standard charges, and of uniform billing and cost accounting methods.

Frank Coffin, Wisconsin Electric Power Co., stated that promotional plans of the utility company for 1942 had not yet been determined, but indicated that some sort of effort would be maintained. He urged dealers to attend a meeting to be sponsored by the utility late in January at which more details would be announced.

Regulation "W" governing instalment selling, put into effect during the past year by Presidential order, has curtailed sales of major appliances only slightly, according to the best information obtained by finance companies, declared Carl Hayssen of the Northwestern Acceptance Corp.

If the appliance dealer selling under a time payment plan has registered properly, there is nothing very complicated about following regulation "W," Mr. Hayssen stated. He must check on four items:

(1) Down payment, which as of Jan. 1 cannot be less than $5.

(2) The length of the contract, as specified in the regulation.

(3) Placing of payments on equal monthly instalments.

(4) No evasive methods on the down payment. The full down payment must be received before, or at the time of delivery.

The meeting also was addressed by Phil B. Redeker, managing editor, AIR CONDITIONING & REFRIGERATION NEWS, who spoke on "The Appliance Business and the War Emergency."

'Seasonal' Steel Items Get Special Handling

WASHINGTON, D. C.—Steel products handled through a large number of jobbers, for which there is a heavy seasonal demand, are accorded special treatment by an amendment to the steel warehouse order, M-21-b, issued Dec. 24, by the Director of Priorities.

Under the directive with respect to Supplementary Order M-21-b which was issued Sept. 26, 1941, jobbers were assigned quotas based on their receipts from producers during the corresponding calendar quarter of 1940 covering their orders for hot rolled concrete reinforcing bars, pipes and tubes, wire and wire products, tin and terne plate, galvanized sheet and strip.

The amendment incorporates the quotas into the order itself, but permits any warehouse, by notifying his supplier on or before Feb. 1, 1942, to base his quota for the Schedule B products listed above on one-fourth of the total tonnage of such product classification shipped by the supplier to the warehouse during the year 1940.

This option will enable warehouses to make necessary adjustments in their 1942 orders for the products specified, as compared with their receipts in 1940. However, once the warehouse has chosen whether it will base its quota on the corresponding calendar quarter or 25% of the whole year 1940, the method cannot be changed for any subsequent quarter in 1942.

Previous limitations on the size of items of alloy, stainless, and tool steel which may be sold by warehouses on unrated orders have been removed, but they may sell such items after Jan. 1 for essential maintenance and repair purposes only, and total deliveries on unrated orders for such items may not exceed 10% of the average monthly deliveries of such materials by the warehouse to all customers during the first calendar quarter of 1941.

Sales of carbon steel plate from warehouse stock are restricted to defense orders after Jan. 1.

2 Firms Lose All Priorities Help For Violations

WASHINGTON, D. C.—Because of violation of priority orders and regulations, all priority assistance will be withheld from Lieb & Buchalter, Brooklyn plumbing supply house, and State Metals & Steel Co., Inc., Canton, Ohio, under suspension orders issued recently by the Priorities Division.

The firms will be unable to use a preference rating under General Preference Order P-100 to obtain materials for maintenance, repair, and operating, nor can they use any other preference rating to which they might otherwise be entitled. In addition, State Metals & Steel cannot deal in aluminum during the period covered by the suspension order.

Lieb & Buchalter, it is charged, ordered 4,740 feet of brass pipe and 720 feet of copper tubing with the statement that the order deserved an A-10 preference rating because the material was to be used as emergency inventory for three Brooklyn hospitals. The firm, however, had received no orders from the hospitals, according to the Priorities Division. The suspension order will run until March 1, 1942.

State Metals & Steel Co., it is said, violated Supplementary Order M-1-c by delivering 153,234 lbs. of aluminum utensil scrap to another firm for melting into 98-9% aluminum ingot without a preference rating or authorization from the Director of Priorities. Later this firm delivered 67,000 lbs. of the ingot made from this scrap to a roller bearing firm for use in oxidizing, a use not sanctioned. The suspension runs until July 1, 1942.

New Farm Equipment Allocation Program Increases Use of Materials For Repairs

WASHINGTON, D. C.—A broad program to make available materials for farm equipment to carry out the Agriculture Department's 1942 food program has been announced by Donald M. Nelson, Director of Priorities.

Effect of the program is to restrict materials available for new farm machinery to an average of approximately 83% of the materials used for similar purposes in 1940, and to permit the use of materials for repair parts at an average rate of about 150% of the 1940 level. More than 1,000,000 tons of steel, 679,000 tons of cast iron, 9,215 tons of copper, and 23,000 tons of rubber will be allowed for the 12-month program.

REPAIR FIRST STEP

In drafting the program, the Division of Civilian Supply took the view, after consultation with the Agriculture Department, that adequate repair of existing machinery is the first step in the attainment of the 1942 agricultural goal. Therefore, it is intended that a large amount of materials should be made available for repair purposes. Farm organizations throughout the country have been asked to urge farmers to start repairs early.

An A-3 preference rating is made available for materials necessary to produce machinery to turn out food supplies at the rate of 115% of the 1924-29 level. The program is related both to domestic needs and to foreign requirements under the lend-lease program.

Preference Rating Order P-95 and Limitation Order L-26 were signed by Mr. Nelson to put the plan into effect. Preference Rating Orders P-32 and P-33, under which ratings of B-1 and A-8, respectively, were assigned, are automatically revoked.

The limitation order covers the period from Nov. 1, 1941, to Oct. 31, 1942. As soon as producers receive copies of the preference rating order, they may apply the new rating to supplies.

SUBJECT TO CHANGE

Conversion of plants to war work was an important factor in determining the extent of the limitation. Under the order, production quotas fixed for various types of machinery can be changed at any time by the Office of Production Management.

The program, drafted by the Division of Civilian Supply and approved by the Supply, Priorities and Allocations Board, is designed to make available to the country's farmers the machinery necessary to achieve the Department of Agriculture's program. Production of machinery not considered essential to this program will be curtailed in varying amounts.

The 1942 agricultural plan calls for greatly increased production of pork, lard, milk, and eggs. Hence, machinery necessary to fill these needs will be produced at higher levels than that used for crops considered less essential. The plan provides for wheat acreage at only 84% of the 1940 acreage. Therefore, output of machinery used to produce this crop will be curtailed sharply.

With the A-3 rating assigned, it is expected that farm equipment manufacturers can obtain 1,123,916 tons of critical materials for new machines for domestic use, 497,112 tons for domestic repair parts, and 172,614 tons for new machines and repair parts for export purposes.

Figures furnished by the Farm Equipment Institute showed that in 1940, critical materials used for domestic new machines totaled 1,354,644 tons, those for domestic repair parts were 330,720 tons, and for export purposes, 182,691 tons.

The limitation order places special emphasis on the necessity for adopting conservation measures, and requires producers to undertake plans for substitution, re-design, and re-specification in order to eliminate use of scarce materials.

About 97% of the total weight of all farm equipment is in steel and cast iron. Copper is used principally for tractor radiators and farm water systems. Aluminum is used in milking machines, and rubber is used for tractor tires.

Harris Co. Opens New Beloit, Wis. Store

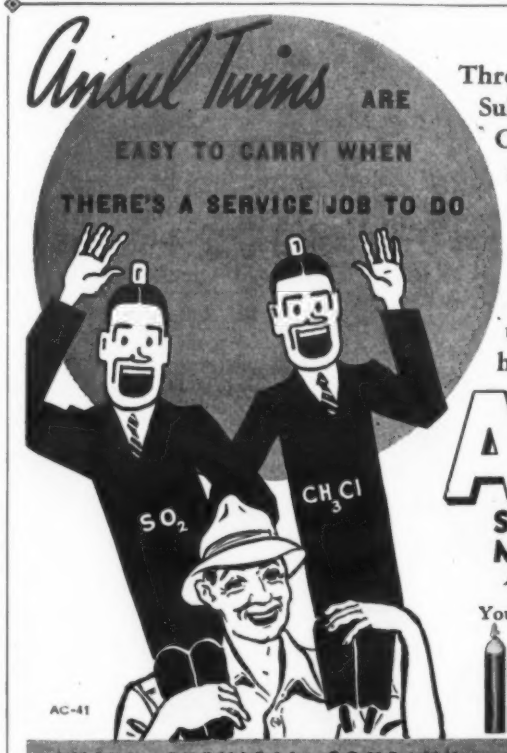
BELOIT, Wis. — The Harris Co., hardware and appliance firm, has opened its second store here at 418-420 East Grand Ave. under the management of Merle Kyle, former manager of the west side store, which is now in charge of Adrian Lindaas.

CASH IN WITH REOL
QUICK FROZEN FOOD DISPLAYER
The REOL CO.
2308-10 Frederick, Baltimore, Md.

3 CATALOGS IN 1
HERMETIC UNITS - COMPRESSORS - PARTS
FRIGIDAIRE - KELVINATOR - NORGE - G-E
Complete Line Refrigeration Parts - Tools - Supplies
WRITE FOR YOUR COPY ON YOUR LETTERHEAD
SERVICE PARTS CO.
MELROSE PARK, ILLINOIS

IMMEDIATE DELIVERY

Here is a "break" for manufacturers to get immediate delivery on vital parts that may be holding up production. Large mid-west manufacturer has $25,000 SURPLUS inventory of standard refrigeration and electrical parts. This is not distress merchandise, but is being offered merely to balance inventory. All parts are unused and in original packing and are offered at jobber's 1940 costs. The stock includes major parts for ⅓ h.p. condensing units of well-known make, fittings, switches, valves, V-belts, conduit boxes, motor pulleys, etc., etc., etc. Prefer to sell entire stock as one lot or will divide into a few major groups. Send for complete descriptive list today. Box 1379, Air Conditioning & Refrigeration News.



Three cylinder sizes each for both Sulphur Dioxide and Methyl Chloride as especially designed for the convenience of the service man. Big enough to contain sufficient gas, small enough to be easily carried to a job, these medium-sized Ansul cylinders are handy, efficient, economical.

ANSUL
SULPHUR DIOXIDE
METHYL CHLORIDE
Agents for Kinetic's "Freon-12"

Your nearby Ansul Jobber is always prepared to supply you with Ansul refrigerants in these sizes:

SO_2	CH_3Cl
25 lbs.	15 lbs.
70 lbs.	40 lbs.
100 lbs.	60 lbs.

ANSUL CHEMICAL COMPANY • MARINETTE, WISCONSIN

Following Simple Guide For Inspection Of Electric Motors Will Aid Serviceman In Proper Maintenance of Power Units

Maintenance

Editor's Note: To help service men become better informed on electric motors, the NEWS is publishing a series of articles written by R. A. Fuller of General Electric Co.'s industrial engineering department. These articles, of which the following is the twelfth, discuss fundamentals of various types of motors, particularly those used in refrigeration and air conditioning equipment. Future instalments will describe the servicing of motors.

By R. A. Fuller,
Industrial Engineering Dept.,
General Electric Co.

Brushes

Check the brushes to make sure that they will not wear down too far before your next inspection. Keep an extra set of brushes available, at the installations or in the service truck, so that replacement can be made when needed. Sand in new brushes, and run the motor without load as long as possible, as covered in the chapter on installation.

It is false economy to use brushes down to the absolute minimum length before replacement. Cases have been known where brushes have worn down until the metal, where the pigtail connects to the brush, was touching the commutator. This, of course, was causing damage to the commutator.

Check that each brush surface, in contact with the commutator, has the polished finish that indicates good contact and that the polish covers essentially all of this surface of the brush. Check the freedom of motion of each brush in the brush holder. When replacing a brush be sure to put it in the same brush holder and in its original position. It has been found helpful to scratch a mark on one side of the brush, when removing it, so that it will be replaced properly.

Check the springs that hold the brushes against the commutator. Improper spring pressure may lead to commutator wear and excessive sparking. Excessive heating may have annealed the springs in which case they should be replaced and the cause of heating corrected. Larger motors have means for adjusting the spring pressure. The pressure should be 2 to 2½ pounds per square inch of area of brush contact with the commutator.

Commutator

Inspect the commutator for color and condition. It should be clean, smooth, and a polished brown color where the brushes ride on it. A bluish color indicates overheating of the commutator. Roughness of the commutator should be removed by sandpapering or stoning. Never use emery cloth or an emery stone.

For this operation run the motor without load. If sandpaper is used wrap it partly around a wood block. The stone is essentially a piece of grindstone known to the trade as a commutator stone. Press the stone or sandpaper against the commutator with moderate pressure with the motor running without load, and move it back and forth across the commutator surface.

Use care not to come in contact with live parts.

If the commutator is very rough the armature should be taken out and the commutator turned down in a lathe. When this is done it is usually necessary to also cut back the insulation between the commutator bars slightly. After turning down the commutator the brushes should be sanded and run in as covered previously. This is not necessary after light sandpapering or stoning.

Motors which raise the brushes after starting may be considered satisfactory with somewhat poorer appearance of commutators and brushes than should be expected where the brushes ride the commutator continuously.

If the commutator is found to be dirty, when the motor is inspected, it should be wiped clean with a piece of canvas or other cloth that is free of lint.

General Inspection

Become acquainted with the sounds made by a motor when it is starting, running, and stopping correctly. As part of the maintenance inspection note the sounds made by the motor under these conditions. Rough commutators, faulty operation of centrifugal mechanisms on single phase motors, dry bearings, and many other faults can be detected with educated ears.

Check that the motor mounting bolts are all tight. A loose mounting bolt can cause considerable noise and a service call. Check the motor pulley setscrews. Loose pulley setscrews can result in the pulley "creeping" off the motor shaft with possible damage to the condenser. Sometimes pulleys creep even with tight setscrews. In such cases the trouble probably comes from the use of only one setscrew, an oversize pulley bore, an oversize keyway, or a loose key.

In a similar way, the senses of smell, sight, and touch can warn you of possible faulty operation. For example, overheated insulation has a peculiar sharp odor—easily identified if you are acquainted with it. Noticing this you can check more carefully into causes of overheating.

A quick glance at a motor arranged for automatic belt tightening will show if the belt has stretched enough to require adjustment of the motor away from the compressor. Feeling of the motor and its bearings may lead to a check on overheating. This will only be an indication—excessive heating should be checked with a thermometer.

In particular, on air cooled condensing units, clean the condenser. This will be the simplest way to avoid overheating of the motor. It is also an easy and effective way to keep the power bills at a minimum.

When making a maintenance call go over the motor with a dry cloth so that the continued, bright, new appearance is an advertisement for your services.

A guide for motor maintenance, in abbreviated form, follows:

1.—Check lubrication and oil motor.
2—Inspect brushes, brush contact surfaces, and brush springs.
3—Inspect commutator.
4—Check customer on his experience with motor since your last visit.
5—Look, listen, smell, and feel for indications of possible trouble with the motor starting, stopping, running, and standing still.
6—Clean the condenser.
7—Wipe off the motor.

Gov't Plans Ways To Meet War Demands For Labor

WASHINGTON, D. C.—A three-point program is being developed by the United States Employment Service to meet the labor demands of the war industries, reports Federal Security Administrator Paul V. McNutt. The program will include:

1. Transferring workers displaced because of priorities to war production.

2. Making increased use of existing and potential labor reserves including women, older workers, negroes, and minority groups against whom there is frequent discrimination.

3. Making more effective use of those already employed through upgrading of workers, and transfer of needed workers to war production from less essential jobs.

The Service Man's Notebook

By Henry Kronke

Mr. Kronke, a service engineer in New York City, compiles useful, handy data for use in his work as he finds a repeated need for certain kinds of information. The editors suggest that service and installation engineer readers of the NEWS cut these tables out for their own notebooks.

INCREASE IN VOLUME OF SUCTION VAPOR DUE TO SUPERHEATING IN SUCTION LINES, IN PER CENT

This table has been prepared to provide a quick means of determining the increase in volume of suction vapor caused by superheating. The values in the tables are based on Gay-Lussac's law, that the volume of a gas is directly proportional to the absolute temperature.

While it is agreed that refrigerants are not perfect gases, the error is so small that for all practical purposes, for which these notes have been prepared, the table may safely be used. At the most the final result as determined by this table will not vary more than 2% from that determined by another method.

The table may be used for any refrigerant. The volume of the vapor at saturation is found in the tables giving the properties of the refrigerant under consideration. Superheating of the suction vapor and consequent increase in volume is a matter which deserves serious consideration.

Temp. of Vapor at Compressor	*Temperature of Vapor Leaving Evaporator °F.						
	—20°	—10°	0°	10°	20°	30°	40°
30°	11.4	8.9	6.5	4.3	2.1	...	...
40°	13.7	11.1	8.8	6.4	4.2	2.0	...
50°	16.0	13.4	10.9	8.5	6.3	4.1	2.0
60°	18.2	15.6	13.1	10.7	8.4	6.1	4.0
70°	20.5	17.8	15.3	12.8	10.4	8.2	6.0
80°	22.8	20.0	17.4	14.9	12.5	10.2	8.0
90°	25.0	22.3	19.6	17.1	14.6	12.3	10.0
100°	27.3	24.5	21.8	19.2	16.7	14.3	12.0
110°	29.6	26.7	24.0	21.3	18.8	16.4	14.0
120°	31.9	29.0	26.1	23.5	20.9	18.4	16.0

*Evaporator temperature is saturation temperature.

"I'm not fooling when I say we have no contact maintenance since we installed Allen-Bradley solenoid controls. I never have to clean, file, or dress our A-B silver alloy contacts. Another thing—these contacts don't weld when low voltage conditions, especially at night, are likely to cause switch trouble.

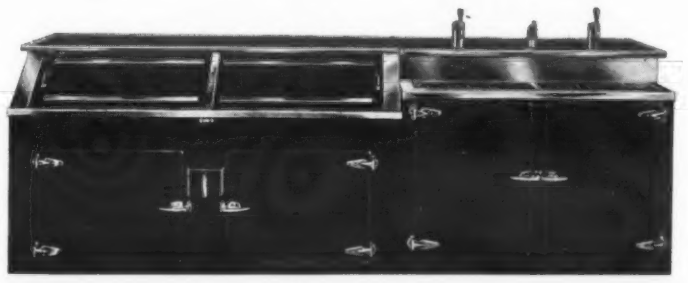
"And I don't have any bearings, pivots, pins, hinges, or flexible jumpers to worry about in these starters. They've got only ONE moving part. There's nothing to stick and cause trouble.

"I like those accurate A-B overload relays, too. They certainly protect us against motor burnouts."

Allen-Bradley Company — 1313 S. First St. Milwaukee

ALLEN-BRADLEY
SOLENOID MOTOR CONTROL

THE LA CROSSE CLUB SPECIAL



This La Crosse Club Special has gained nation wide acceptance in a short time. This model, having an approximate capacity of 400 pint bottles, 2 keg pre-cooler, 2 kegs on tap, with or without bar top, and 126 inch overall length, has been adopted as a very necessary item in the line of every progressive refrigeration dealer. Don't wait, write for full particulars now.

LA CROSSE NOVELTY BOX MFG. COMPANY
LA CROSSE, WISCONSIN

CLASSIFIED ADVERTISING

RATES for "Positions Wanted," 5¢ per word; minimum charge, $2.50. Three consecutive insertions, 12½¢ per word; minimum charge $6.25.

RATES for all other classifications, 10¢ per word, minimum charge, $5.00 per insertion. Three consecutive insertions, 25¢ per word, minimum charge, $12.50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other addresses by actual word count.

PAYMENT in advance is required for advertising in this column.

POSITIONS AVAILABLE

REFRIGERATION SERVICEMAN—Position available in Northern Ohio for commercial man with low pressure experience. State qualifications and compensation requirements first letter. Include photograph if available. Box 1378, Air Conditioning & Refrigeration News.

FRANCHISES WANTED

THIS ADVERTISEMENT is directed to manufacturers of commercial refrigeration and air conditioning equipment having faith and confidence in the future of our country. This advertiser fully appreciates that many refrigeration manufacturers are booked to capacity and are not eager to commit themselves to substantial additional business. Nevertheless, to manufacturers who ARE thinking of the future, we say, "Think of the future NOW!" To these manufacturers who are interested in SALES, we offer the facilities and services of a wide awake, hard hitting, financially responsible sales organization, equipped with a splendid engineering, installation and service department. Showrooms located in central Manhattan, excellent warehouse accommodations, and above all, an organization headed by an individual who has been successfully associated with the refrigeration industry for the past twenty years. Prompt replies will be appreciated. Box 1369, Air Conditioning & Refrigeration News.

EQUIPMENT FOR SALE

FOR SALE: Complete Ice Rink 35′ x 40′. Equipment includes 25 HP. Baker ammonia compressor, brine tank, coils, double pipe condenser and circulating pump. All nearly new condition. Sacrifice. Write Fanchon & Marco, Inc., 323 West Sixth Street, Los Angeles, California.

PAR
CHECK THE FEATURES AND YOU'LL AGREE
★ PAR ★
IS TOPS IN REFRIGERATION EQUIPMENT!
Catalog on request
MODERN EQUIPMENT CORP.. DEFIANCE. OHIO

HEAT TRANSFER EQUIPMENT
MARLO
COIL COMPANY
SAINT LOUIS, MISSOURI

We Sell Only Thru
Distributors of refrigeration and insulation. Get particulars on our
SAF-T-LOC Individual Lockers
and the New "2 in 1" convertible.
Master Refrigerated Locker Systems, Inc.
121 Main St. Sioux City, Iowa
250,000 Masterbuilt Lockers in Use

Penn Says:
Servicing commercial refrigeration equipment is vitally important NOW. You can depend on Penn Controls.
PENN ELECTRIC SWITCH CO.
GOSHEN, IND.

Use CHICAGO SEALS
for seal replacements
A complete line in all sizes
CHICAGO SEAL CO.
20 North Wacker Dr., Chicago

For: TRUCKS, LOCKERS, COOLERS, COUNTERS, CABINET CONVERSIONS, use:
KOLD-HOLD
PLATES
KOLD-HOLD MFG. CO.
LANSING, MICH., U. S. A.

New Train Air Cooling System Varies Automatically With Outside Conditions

Coil Arrangements & Controls Different

PHILADELPHIA — To provide a flexible air conditioning system which will permit the inside temperatures to be varied proportionately with the changing outdoor temperatures, a dual control hookup was incorporated in the cooling plant of the new "Empire State Express," a streamlined train recently put into service by the New York Central between New York City, Detroit, and Cleveland.

The "Empire State Express" actually consists of two trains, each made up of 16 cars which were built by the Edward G. Budd Mfg. Co. here. The cars are of all-stainless steel construction, fabricated by the "Shotweld" system.

Each car except the diners, is supplied conditioned air by a Frigidaire standard electro-mechanical air conditioning unit of 7-ton capacity. Five-ton units are employed on the diners. These units, mounted beneath the cars, are connected to a system which provides 2,400 c.f.m., enough to replace all the air in the cars in 3¼ minutes. The system operates on a 25% fresh air basis, however, so that a complete change of air requires 13 minutes.

COOLING SECTION SPLIT

Unusual feature of the installation is the splitting of the overhead cooling coil into two sections. The upper part of the coil is controlled independently by a solenoid valve. Two thermostats control car temperature when cooling is required.

One thermostat, a Detroit Lubricator differential thermostat, operates the solenoid valve on the upper half of the cooling coil. This thermostat controls the car temperature in relation to the outside temperature, so that as outside temperature rises the car temperature rises in a ratio determined by the railroad control curve. When the proper car temperature is reached, this thermostat operates the solenoid valve to shut off the top half of the cooling coil.

The lower half of the cooling coil continues to deliver sufficient refrigeration to maintain the car temperature, but if this refrigeration is in excess of the required amount and the car temperature continues to drop, a low-limit thermostat shuts off the compressor.

Because the cooling coil is in operation for longer periods with this control hookup, better dehumidification and a lower average humidity result, it is said.

Discharge ducts are fabricated of stainless steel to eliminate the danger of corrosion. "Aero-fuse" ceiling outlets are used on all cars, with those in the chaircars combining lighting fixtures.

The kitchen of the dining car has an air curtain at the doorway, and a blower. Together, their capacity is 1,500 cu. ft. Kitchen air is exhausted by propeller type fans in the ceiling over the range and in the pantry to keep kitchen odor and heat from the dining compartment.

HEATING METHODS

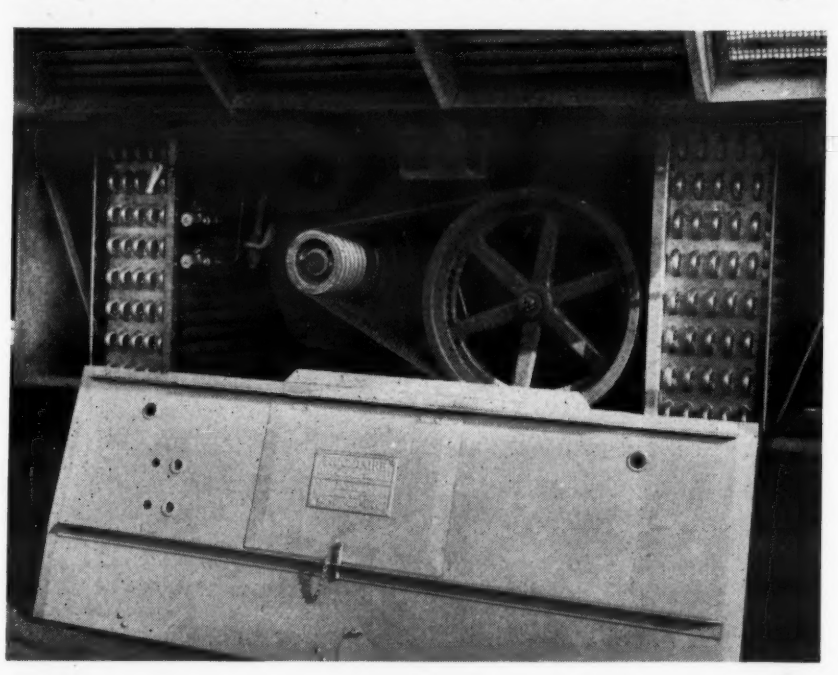
Heating in these new cars is supplied by steam through radiation from finned copper tubing running in ducts on the floor at the car sides and from the radiator in front of the blower in the overhead air supply duct. Openings in the ducts are on the sides rather than on top to prevent discoloring of the walls. Floor and overhead thermostats control the heating.

To reduce heat leakage between interior and exterior of the cars all windows are double glazed and walls of the cars are insulated. Fiberglas insulation was used throughout.

Mechanical refrigeration, besides supplying cooling for the air conditioning system, also serves the ice cream cabinets and water coolers on the "Empire State Express."

Fluorescent lighting is used extensively throughout the cars. Fixtures in parlor cars and coaches are set in the parcel racks. In tavern-lounge and observation cars, continuous fluorescent troughs are set above the windows. Decorative fluorescent fixtures are also employed.

Conditioned air is delivered to the cars of New York Central's new "Empire State Express" through circular ceiling outlets. Those in the dining cars, as shown here, are not fitted with incandescent lights.



Frigidaire "Freon" conditioning equipment used on the "Empire State Express" is installed beneath each car. Except for the diners, which employ 5-ton units, all cars are powered with 7-ton machines.

Professor Tuve Says Engineers Stop Too Soon In Air Cooling Calculations

Fail To Give Proper Consideration To Movement Of Air; He Gives Tips About Distribution

By Jim McCallum

DETROIT—Why isn't air conditioning a really "big time" industry today?

It's because air conditioning engineers, for the most part, have stayed in the machine room talking fans, compressors, and the like, and have failed to consider the air conditioning needs and desires of the consuming public.

At least that was the explanation advanced by Prof. George L. Tuve of the Case School of Applied Science, Cleveland, when he addressed the December meeting of the Michigan chapter of the American Society of Heating & Ventilating Engineers.

Title of Prof. Tuve's talk was "Air Distribution, the Proof of Good Air Conditioning," but he managed to work in considerable comment on the problems of the industry as a whole.

"Mechanical perfection of equipment is not enough," Prof. Tuve pointed out. It's the result which this equipment produces in terms of human comfort that really counts.

Quoting from the report of a New York doctor on "Air Conditioning Exposures," the speaker cited the cases of doctors who had patients suffering from neuritis and neuralgia presumably caused by poor air conditioning, and of professional baseball team managers who wouldn't let their players ride on air conditioned trains.

"Publicity of this kind," the professor observed, "does the industry no good.

"The reason behind all this adverse criticism," the professor declared, "is that the engineers too often stop before they reach the part of the system about which the public is most concerned—the air distribution."

Turning the meeting into a question-without-answer session, he asked his listeners: "How do you figure velocity from, for instance, a sidewall outlet? How do you determine the size and shape of this outlet? What type do you prefer? Why? What rules do you follow for the control of noise? How do you figure on handling between-season temperature changes?

"If you can't answer these questions, and others like them, on the basis of sound research," Prof. Tuve declared, "you can't expect to sell air conditioning to the public.

"You can't expect the public to approve an air conditioning system that does not work at peak efficiency at all times. Just think of the howl any of your wives would raise if your household refrigerator kept going haywire and frequently failed to satisfactorily perform its intended task."

Referring to the established fields of comfort conditioning and industrial conditioning, Prof. Tuve added that a new field, that of "survival conditioning" in air raid shelters is now on the threshold of prominence.

"By air conditioning in this sense," he elaborated, "I mean anything that changes the condition of the air.

"The three factors to be taken under consideration in choosing any type of air outlet," he continued, "are: (1) selection of type, (2) coverage of throw, and (3) mixing of conditioned air with room air."

Selection, he stated, is usually decided by experience. In speaking of coverage, he drew an analogy between some types of outlets and a circular water sprinkler which does not cover the corners of the lawn. Mixing, he declared, is usually a matter of over-conditioning the delivered air, circulating it through the room air—and then just hoping.

Established CURTIS REFRIGERATION AIR CONDITIONING COMMERCIAL 1864
Curtis Refrigerating Machine Division
of Curtis Manufacturing Company
1912 Kienlen Ave. St. Louis, Mo.

Bush Mfg. Co. FINNED TUBE PRODUCTS
HARTFORD, CONN.

UNICON "The Logical Trend in Air-Cooled Condensers"
KRAMER-TRENTON CO.
TRENTON, N. J.

For Information on Motors
FOR ALL TYPES OF
Air Conditioning and Refrigeration Equipment
WRITE TO
Wagner Electric Corporation
6441 PLYMOUTH AVE ST. LOUIS, MO.

ALCO Specify ALCO for Maximum Efficiency, Trouble-Free Performance
ALCO VALVE CO. ST. LOUIS, MO.

Seamless
PENN BRASS and COPPER TUBING
PENN BRASS & COPPER CO.
ERIE, PENNA.

U. S. GOVERNMENT Specification
Filtrine
Cafeteria Coolers
Filtrine Mfg. Co., Brooklyn

KEROTEST
REFRIGERATION VALVES AND FITTINGS
Serve Youth & Age
KEROTEST MANUFACTURING CO.
PITTSBURGH, PA.

For 1942 — most complete range of styles and sizes — 12 to 71.5 cu. ft. — in the industry. New modern styling — priced for real value.
Reach-in CABINETS
Midwest Mfg. Company
GALESBURG, ILLINOIS

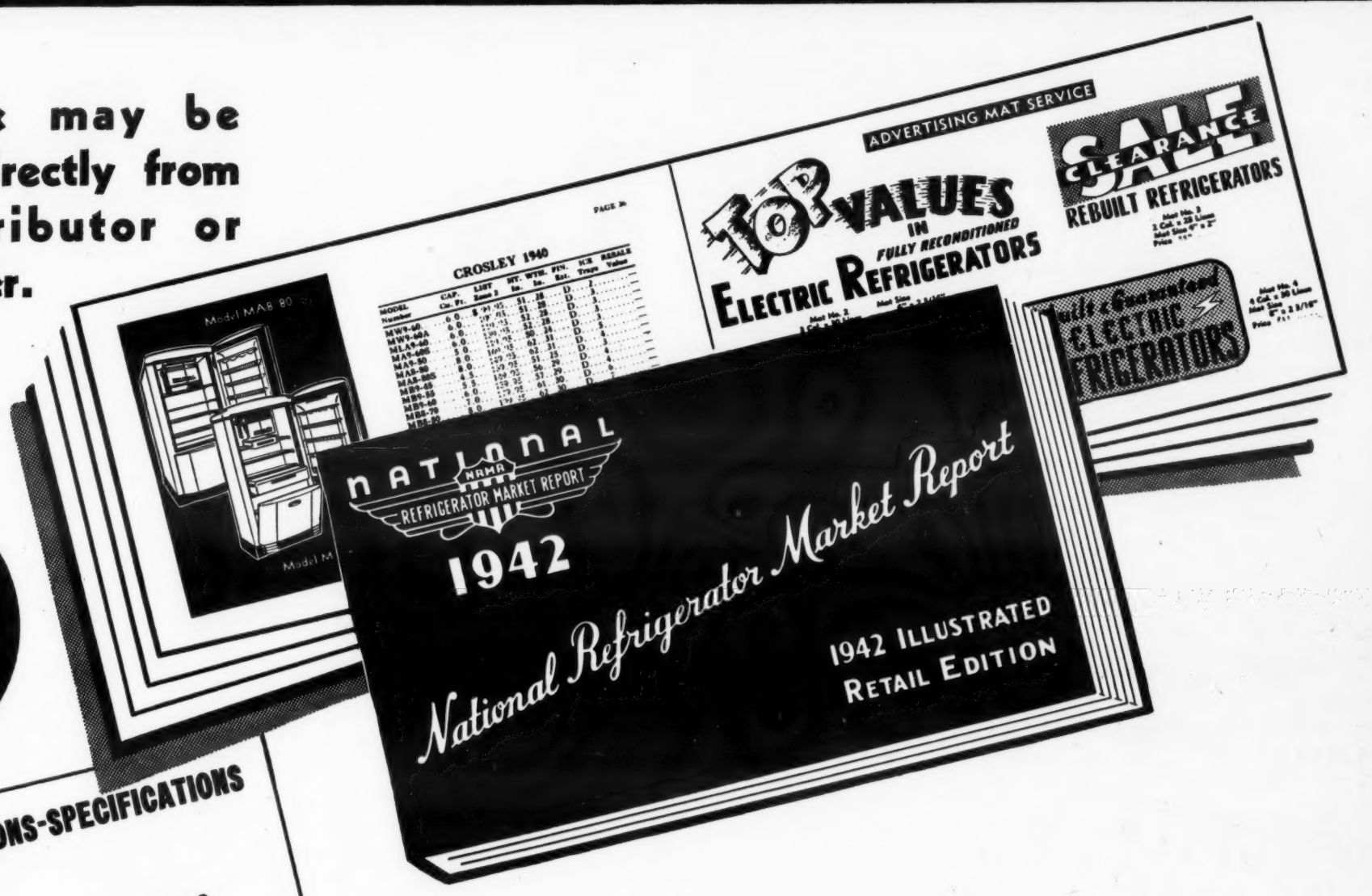
V VIRGINIA
Dependable Refrigerants
VIRGINIA SMELTING CO.
WEST NORFOLK, VA.

Announcing THE 1942 NATIONAL REFRIGERATOR MARKET REPORT

Latest Official Data

★ THE BLUE BOOK OF REFRIGERATOR TRADE-IN VALUES ★

This book may be obtained directly from your distributor or manufacturer.



LIST PRICE $3.50 EACH

- ★ COMPLETE ILLUSTRATIONS-SPECIFICATIONS
- ★ LISTS OVER 2200 MAKES AND MODELS
- ★ ASSIGNS FAIR TRADE-IN VALUES
- ★ ADVERTISING MAT SERVICE
- ★ TELLS HOW TO RECONDITION TRADE-INS
- ★ FREE DEALER SERVICE BUREAU

The Automobile industry has used a "Blue Book" of Trade-Ins successfully for 27 years. Profit by experience and use the "Blue Book" of Refrigerator Trade-In Values.

THE TRADE IN "BLUE BOOK" INSURES PROFITS ON SALES BECAUSE

1
It lists and illustrates over 2,000 models of domestic type refrigerators so that they may be readily identified by customer and dealer. Thus all guesswork as to age or model is eliminated.

2
It gives a fair, conservative value to each model listed, and thus eliminates the danger of excessive allowances.

3
Its neat and complete make-up impresses the customer — and in general its appearance and lists serve as an effective antidote for the customer's inflated sense of value of his "trade-in." SEEING IS BELIEVING!

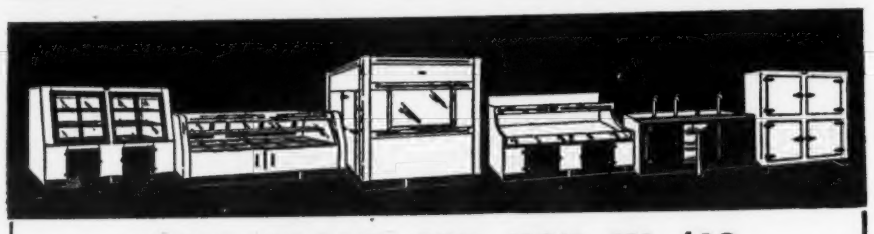
4
Its trade-in appraisal values are designed to let the dealer MAKE A PROFIT on his replacement sales.

5
It contains a complete editorial section which tells the dealer how to trade refrigerators profitably. How to advertise and re-sell refrigerator trade-ins and includes a complete mat service.

NATIONAL REFRIGERATOR MARKET REPORT, INC.
3028 HUNTING PARK AVENUE
PHILADELPHIA, PA.

ONE TRADE-IN PROPERLY EXECUTED ON THE BASIS OF PRICES ESTABLISHED IN THE BLUE BOOK WILL PAY FOR THE COST OF A BOOK MANY TIMES OVER.

Buy LARKIN REFRIGERATION PRODUCTS FROM YOUR LOCAL JOBBER!
Humi-Temp Forced Convection Units—Patented CROSS-FIN-COILS — Bare Tube Coils — Zinc Fused Steel Plate Coils—Disseminator Pans — Heat Exchangers—Evaporative Condensers — Instantaneous Water Coolers —
See Your Jobber or Write Direct
He Is Playing a Vital Part in Preserving the Nation's Food Supply!
LARKIN COILS, INC.
519 MEMORIAL DR., S. E., ATLANTA, GA.

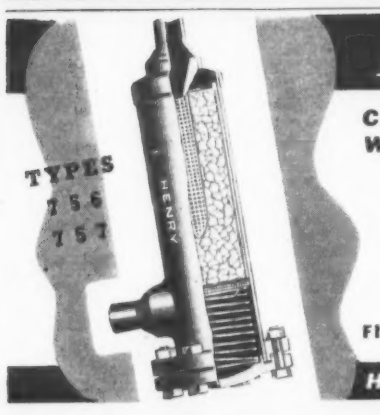


MORE PROFIT FOR YOU IN '42
WITH THE COMPLETE FOGEL ONE-QUALITY LINE.
COMMERCIAL REFRIGERATORS FOR EVERY CIVILIAN AND MILITARY NEED.
WRITE NOW FOR INTERESTING DISTRIBUTOR PROPOSITION.
FOGEL • REFRIGERATOR COMPANY • Philadelphia, Penna. • Since 1899

A SINGLE CONTROL Universal in Application
THE NEW POLARTRON
FOR PRESSURE CONTROL UP TO 1H.P.AC
Separate "On and off" Knobs ★ Universal Range ★ Capillary Pressure Connections ★ Fewer Models to Stock ★ Minimum Free Service ★ "Cooking Control" on Cut Out or Cut In ★ No Short Cycling ★ Polartron Equipped Compressors can be Converted to Produce Frost Free Constant Cold
Note these Advantages
MINNEAPOLIS-HONEYWELL
MINNEAPOLIS-HONEYWELL REGULATOR COMPANY
2987 FOURTH AVENUE SOUTH, MINNEAPOLIS, MINNESOTA
REFRIGERATION Control
AUTOMATIC CONTROLS MH

TYLER dealers will make money in 1942—Tyler dealers make money every year. Complete, fast-selling refrigerator line. Outstanding value, and priced right. Tyler Fixture Corporation, Dept. A-2, Niles, Michigan.

TO SHERER FOR PROFIT WITH COMMERCIAL REFRIGERATORS
SHERER DISPLAY AND STORAGE EQUIPMENT FOR RETAIL FOOD STORES — SHERER-GILLETT CO. MARSHALL MICHIGAN
Follow the profit road with Sherer. A complete line of display and storage refrigerators and full factory cooperation makes the going easier. Write for complete franchise details.
SHERER-GILLETT CO. MARSHALL, MICH.



HENRY
CARTRIDGE DEHYDRATOR
With Side Outlet and Dispersion Tube
This exceptional design permits easy removal and replacement of cartridge without loosening end connections. Dispersion tube for increasing drying efficiency and minimizing pressure drop is incorporated as integral part of refill cartridge.
Ask your jobber for it.
FILLED WITH SILICA GEL OR ACTIVATED ALUMINA
HENRY VALVE CO. 1001-19 N. SPAULDING AVE. CHICAGO, ILLINOIS

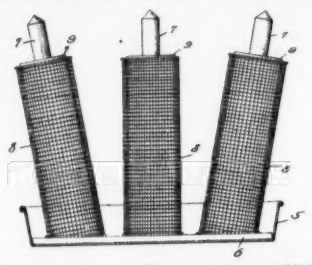
SAFEGUARD America's Food Supply!

Keep fit—with healthful, wholesome food! America's strength lies in her steel and ships and military resources—and in the muscle and morale of every American citizen!
Modern Refrigeration is a vital requisite to a sound defense program—and Ranco is proud to be playing its part in safeguarding the food supplies that keep America strong and fearless.
Ranco INC. COLUMBUS. OHIO, USA

PATENTS

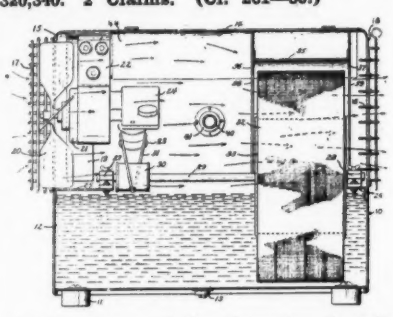
Weeks of Dec. 9 & 16

2,265,123. AIR COOLING AND CONDITIONING DEVICE. Rudolph Anders, Burbank, Calif. Application Jan. 10, 1941, Serial No. 373,995. 4 Claims. (Cl. 62—133.)



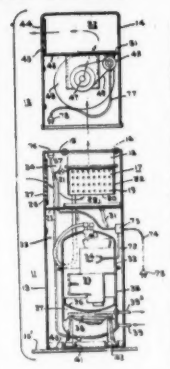
1. In an air cooling and conditioning device, a base, a plurality of centering pins rising from the base, a tubular container constructed of wire mesh material, surrounding each pin in spaced relation therewith, a tubular container constructed of material having absorbing qualities.

2,265,252. AIR STERILIZER AND HUMIDIFIER. Harold William Schaefer, Chicago, Ill., assignor to The Harry Alter Co., Chicago, Ill., a corporation of Illinois. Application Feb. 23, 1940, Serial No. 320,340. 2 Claims. (Cl. 261—30.)



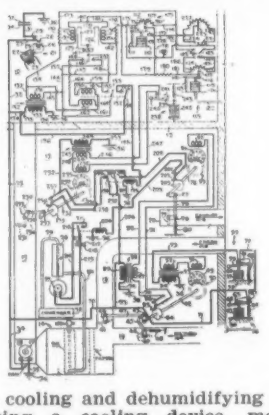
1. Apparatus of the character described comprising an elongated casing having a lower portion defining a reservoir for liquid, and having end walls provided with means defining inlet and outlet openings, respectively, said casing having an upper wall cooperable with the surface of the liquid in the reservoir to define an air duct, a motor on said upper wall and depending into the air duct.

2,265,272. AIR CONDITIONING APPARATUS. John L. Ditzler, Springfield, Mass., assignor to Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., a corporation of Pennsylvania. Application Oct. 12, 1938, Serial No. 234,534. 4 Claims. (Cl. 62—140.)



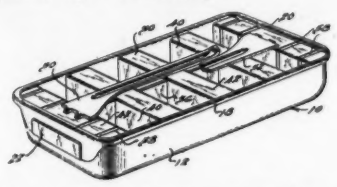
1. A self-contained unit air cooler, comprising a vertically elongated cabinet divided into separate lower and upper sections, refrigerating apparatus including an evaporator, a compressor and a condenser connected to form a complete refrigerant circuit mounted in said lower section, a fan mounted in said upper section, a motor connected to the fan for driving the same, said motor being mounted in one of said sections.

2,265,322. CONTROL SYSTEM FOR AIR CONDITIONING SYSTEMS. John H. Spaan, Oklahoma City, Okla., assignor to Minneapolis-Honeywell Regulator Co., Minneapolis, Minn., a corporation of Delaware. Application May 11, 1936, Serial No. 79,092. 26 Claims. (Cl. 236—44.)



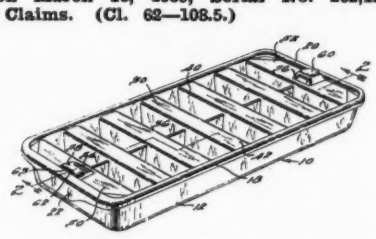
17. A cooling and dehumidifying system, comprising a cooling device, means to pass air through said cooling device for a conditioning action, damper means for controlling the flow of air through said cooling device, and humidity responsive means for controlling said damper means in a manner to reduce the air flow through said cooling device upon an increase in humidity.

2,265,348. ICE TRAY AND GRID. Arthur E. Cole, Detroit, Mich. Application March 16, 1939, Serial No. 262,119. 3 Claims. (Cl. 62—108.5.)



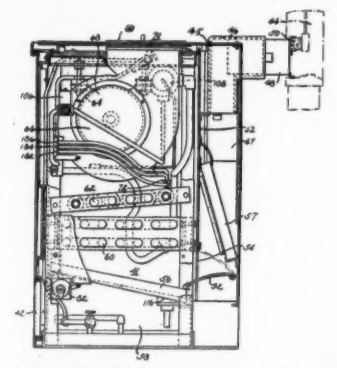
1. An ice block forming device for use in an ice tray pan comprising a flexible metal grid formed to provide a plurality of generally rectangular shaped ice block spaces alternately opening upwardly and downwardly, the upright edges of the grid being inclined upwardly and outwardly from the bottom and having rounded corners at the juncture between the bottom of the grid and the side walls.

2,265,349. ICE TRAY AND GRID. Arthur E. Cole, Detroit, Mich. Application March 16, 1939, Serial No. 262,120. 4 Claims. (Cl. 62—108.5.)



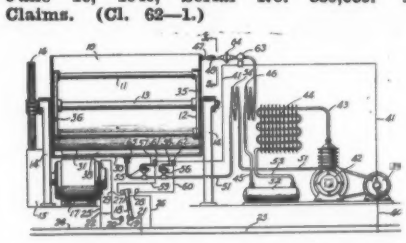
1. In an ice tray for refrigerators, a pan having upright end and side walls defining an ice freezing compartment, a flexible removable grid member adapted to be positioned in said pan and having partitioning walls forming alternate upwardly and downwardly opening ice block spaces, said grid having a generally horizontal end flange terminating substantially within the margin of the end of the pan.

2,265,497. REFRIGERATING APPARATUS. Nelson J. Smith, Dayton, Ohio, assignor to General Motors Corp., Dayton, Ohio, a corporation of Delaware. Original application March 29, 1935, Serial No. 13,710. Divided and this application Aug. 29, 1938, Serial No. 227,348. 3 Claims. (Cl. 98—94.)



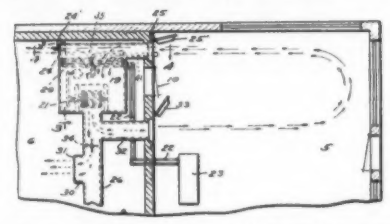
1. In combination with an air conditioning cabinet having a plurality of side walls and a top wall, means for introducing air into said cabinet comprising a vertically adjustable elbow member having a vertical portion projecting through the top of said cabinet within the confines of said walls and having a horizontal portion extending rearwardly from said cabinet.

2,265,552. DOUGH MIXER. Merlin A. Sticelber, Kansas City, Mo. Application June 10, 1940, Serial No. 339,639. 13 Claims. (Cl. 62—1.)



1. In a dough mixer, a tiltable, mixing chamber having an upstanding wall, rotatable beater arms in said mixing chamber for repeatedly contacting a mass of dough with said wall, and means for cooling said dough comprising refrigerating means for said wall, comprising a refrigerant expansion chamber in direct heat transfer relation to said wall.

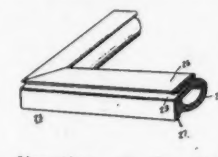
2,265,634. REFRIGERATING PLANT. Ford J. Cumming, Minneapolis, Minn. Application April 24, 1939, Serial No. 269,575. 16 Claims. (Cl. 62—102.)



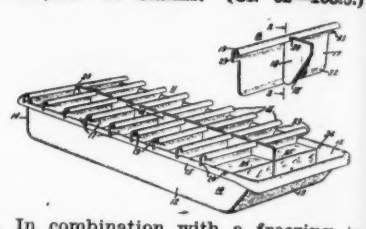
3. In a cold storage refrigerating plant, a cold storage room wherein air is refrigerated to below freezing temperatures, an associated warm room wherein the temperature is maintained above freezing, an air conduit exposed to the freezing temperature in the cold storage room and having inlet and outlet openings exposed to the warm air above freezing temperature in said associated warm room, a low temperature heat exchanger located in said conduit intermediate said opening.

2,265,693. REFRIGERATOR CABINET GASKET. James L. Knight, Erie, Pa., assignor to General Electric Co., a corporation of New York. Application Sept. 7, 1940, Serial No. 355,778. 5 Claims. (Cl. 288—22.)

1. A gasket for refrigerator cabinets and the like, comprising a hollow striking bead of resilient material, and an integral portion of resilient material disposed tangentially of the outer edge of the bead, the length of the portion in the direction of the thickness of said bead being less than the thickness of the bead in the unstressed condition thereof, and said portion having a substantially flat outer face.

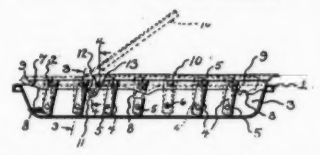


2,265,705. FREEZING TRAY. Carl H. Steenstrup, Schenectady, N. Y., assignor to General Electric Co., a corporation of New York. Application June 8, 1937, Serial No. 147,056. 14 Claims. (Cl. 62—108.5.)



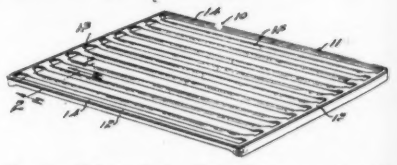
1. In combination with a freezing tray having upwardly directed sides and ends, a partition element cooperating with said freezing tray to form a plurality of ice block compartments, said partition element comprising a transverse dividing wall and a longitudinal dividing wall rigidly secured to said transverse dividing wall and extending from one side of said transverse dividing wall.

2,265,731. ICE TRAY GRID. Earl W. Haugh, Manitowoc, Wis., assignor to Aluminum Goods Mfg. Co., Manitowoc, Wis. Application Feb. 20, 1939, Serial No. 257,320. 2 Claims. (Cl. 62—108.5.)



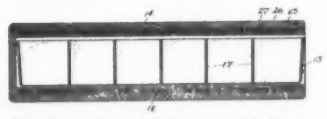
1. An ice cube grid comprising, a main longitudinal partition, a plurality of spaced transverse fins projecting laterally from the opposite sides of the longitudinal partition, means pivotally and slidably connecting the fans adjacent their lower ends to the longitudinal partition adjacent its lower edge, whereby said fins can rock on said longitudinal partition and move upwardly thereon.

2,265,790. REFRIGERATOR SHELF. Leonard A. Young, Detroit, Mich. Application Oct. 19, 1939, Serial No. 300,129. 3 Claims. (Cl. 211—153.)



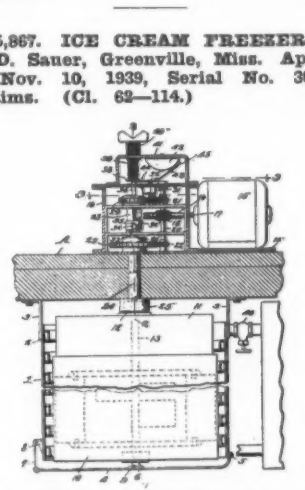
2. A fabricated thermally conductive refrigerator shelf comprising a pair of co-planar sections, each section having an edge portion and a plurality of projections extending therefrom, said edge portion having a downwardly extending flanging and an upwardly extending ridge.

2,265,807. MECHANISM FOR FREEZING ICE TRAYS AND CUBES. Hugo H. Hanft, Long Beach, N. Y. Application June 6, 1939, Serial No. 277,596. 3 Claims. (Cl. 219—47.)



1. An ice tray unit comprising a tray, a unit surrounding said tray and an inductively wound coil mounted in said unit around one axis thereof, means for supplying alternating current to said coil for a predetermined time, and a plurality of layers of laminated iron surrounding said unit.

2,265,867. ICE CREAM FREEZER. Albert D. Sauer, Greenville, Miss. Application Nov. 10, 1939, Serial No. 303,892. 6 Claims. (Cl. 62—114.)



1. A unit for installation in a refrigerator, including an evaporator having an open end, a container rotatably and removably mounted therein, a dasher rotatable in the container, a motor, separate concentric shafts detachably coupled to the dasher and container respectively.

2,266,007. ICE TRAY. Hazel B. Copeman, Flint, Mich., assignor to Copeman Laboratories Co., Flint, Mich., a corporation of Michigan. Application Feb. 17, 1937, Serial No. 126,142. 11 Claims. (Cl. 62—108.5.)

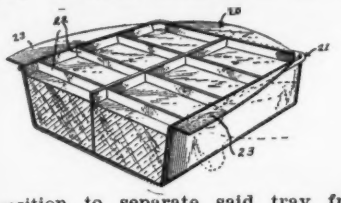
1. The combination with a tray of good heat conducting properties for containing a substance to be congealed or frozen

(Concluded on Page 15, Column 1)

Patents (Cont.)

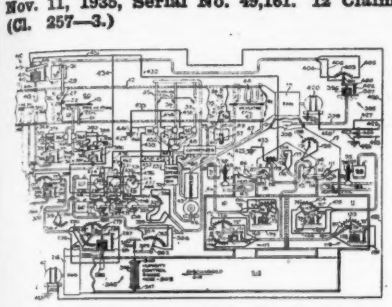
(Concluded from Page 14, Column 5)

and adapted to be placed in a sharp freezing chamber, of a soft rubber lining member removably arranged in the tray



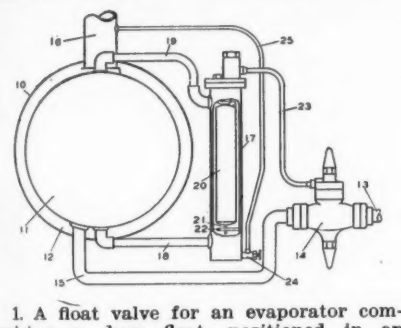
in position to separate said tray from a substance to be frozen and having spaced transverse slits in its sides and bottom to form sides.

2,266,029. ZONE AIR CONDITIONING SYSTEM. John E. Haines, Minneapolis, Minn., assignor to Minneapolis-Honeywell Regulator Co., Minneapolis, Minn., a corporation of Delaware. Application Nov. 11, 1935, Serial No. 49,161. 12 Claims. (Cl. 257—3.)



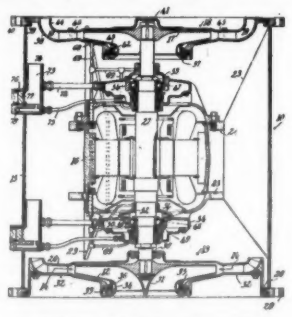
4. In an air conditioning system, in combination, means for supplying air to a plurality of spaces to be controlled, means for cooling the air supplied to said spaces, flow means for determining the proportions of the air passed to said spaces, thermostatic means responsive to the temperature of the air in each space for controlling said flow control means.

2,266,069. REFRIGERATION APPARATUS. Harry A. Phillips, Chicago, Ill. Application May 13, 1939, Serial No. 273,396. 10 Claims. (Cl. 62—8.)



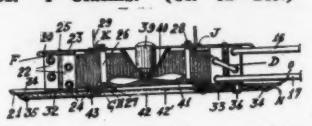
1. A float valve for an evaporator comprising a deep float, positioned in an interconnected float chamber adjacent to said evaporator, and of a length to extend vertically from a point close to the horizontal plane of the bottom of said evaporator to a point above the liquid level to be maintained in said evaporator.

2,266,107. CENTRIFUGAL REFRIGERATING APPARATUS. Robert W. Waterfill, Montclair, N. J., assignor to Buensod-Stacey Air Conditioning, Inc., New York, N. Y., a corporation of Delaware. Application Sept. 30, 1938, Serial No. 232,580. 10 Claims. (Cl. 230—117.)



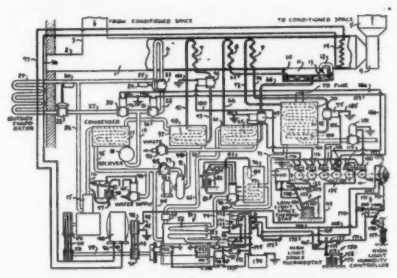
1. In a motor driven compressor unit a lubrication system for a shaft bearing comprising a chamber surrounding the bearing and having openings therein through which the shaft passes with a running fit and having its lower portion adapted to serve as an oil reservoir, a slinger driven by the shaft for supplying oil from the reservior portion to the bearing, means for causing a flow of small volume of the gas being handled by the compressor through the shaft openings and along the shaft into said chamber to prevent seepage of oil.

2,266,187. DEVICE FOR AIR CONDITIONING AUTOMOTIVE VEHICLES. Bloyce Fitzgerald, Wichita, Kan., assignor of 15% to R. M. Kenney, 25% to W. T. Crosswhite, 25% to G. C. Boling and 10% to J. R. McLellan, all of Wichita, Kan. Application Jan. 29, 1940, Serial No. 316,161. 4 Claims. (Cl. 62—140.)



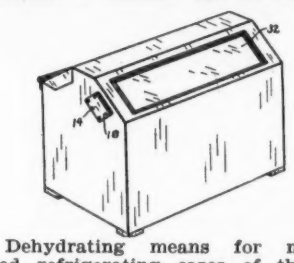
1. In an evaporator for a refrigerating system of the class described, an upper and a lower plate, said lower plate having an opening axially therethrough, a plurality of pipe coils wound about the said opening and being positioned in staggered relation with respect to cross section, means to secure the pipe coils in spaced relation with each other and between the upper and lower plates, a plurality of apertured fin elements to engage on the coils of the pipes assisting radiation of air current radially over said coils.

2,266,238. AIR CONDITIONING SYSTEM. Alwin B. Newton, Minneapolis, Minn., assignor to Minneapolis-Honeywell Regulator Co., Minneapolis, Minn., a corporation of Delaware. Application Feb. 7, 1938, Serial No. 189,082. 23 Claims. (Cl. 257—3.)



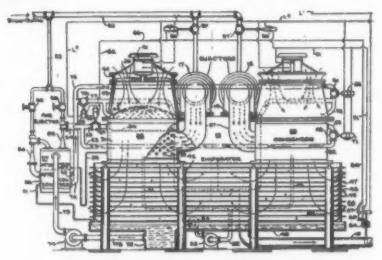
1. In an air conditioning system for heating and cooling a space, in combination, a reversible cycle refrigeration system adapted for selectively heating or cooling a space, said refrigeration system having a compressor, an internal combustion engine for driving the compressor, means for placing said internal combustion engine into operation upon demand for either heating or cooling, means for transferring waste heat from the engine to said space, first control means for controlling the transfer of waste heat, second control means for reversing said refrigeration system.

2,266,346. DEHYDRATING MEANS FOR MULTIPLE PANELED REFRIGERATING CASES. Otto J. Vincent, Seattle, Wash. Application July 25, 1939, Serial No. 286,465. 5 Claims. (Cl. 20—40.5.)



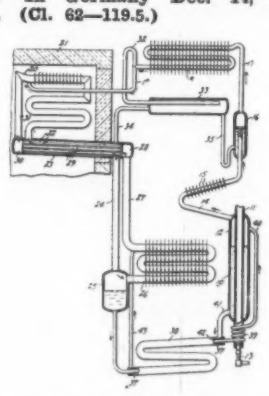
1. Dehydrating means for multiple paneled refrigerating cases of the type wherein a number of transparent walls spaced apart from each other are positioned in a case to form a plurality of adjacent separated dead air compartments having discharge passages, said means comprising a removable container positioned in a wall of said case and having a perforate wall disposed adjacent to the said discharge passages from the dead air compartments.

2,266,406. EVAPORATIVE CONDENSER APPARATUS. Robert A. Bowman, Prospect Park, Pa., assignor to Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., a corporation of Pennsylvania. Original application July 23, 1936, Serial No. 92,089. Divided and this application Jan. 26, 1938, Serial No. 186,929. 3 Claims. (Cl. 257—70.)



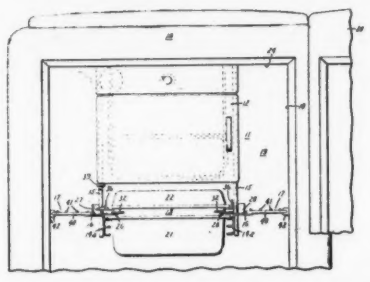
2. In an evaporative condenser, the combination of a bank of horizontal tubes, means forming an enclosure about said bank of tubes and a vertical passage for air flowing over the surfaces of said tubes, means for distributing water to the tubes at the top of the tube bank.

2,266,584. REFRIGERATION. Harry K. Bergholm, Stockholm, Sweden, assignor, by mesne assignments, to Servel, Inc., New York, N. Y., a corporation of Delaware. Application Dec. 8, 1939, Serial No. 308,118. In Germany Dec. 14, 1938. 3 Claims. (Cl. 62—119.5.)



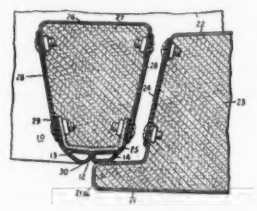
1. In absorption refrigerating apparatus, a circuit for absorption liquid including an absorber and a generator, a condenser, a circuit for inert pressure equalizing gas including an evaporator and said absorber, a vessel connected to said condenser and to said gas circuit and serving as a storage chamber for a reserve supply of said inert gas.

2,266,617. REFRIGERATOR CABINET. Carl H. Steenstrup, Schenectady, N. Y., assignor to General Electric Co., a corporation of New York. Application Sept. 18, 1940, Serial No. 357,265. 7 Claims. (Cl. 62—89.)



1. In a refrigerator of the type comprising a thermally insulated cabinet having an inner liner defining a food storage compartment, a cooling element having an opening at the front thereof, a food storage receptacle disposed below said cooling element, means for supporting said receptacle from the top wall of said inner liner, closure means for closing the opening in said element, and means for supporting said closure means from said supporting means.

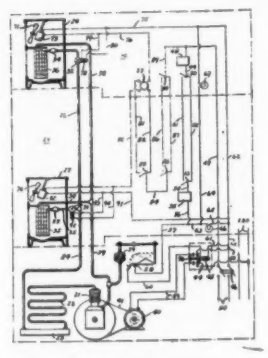
2,266,703. REFRIGERATOR CABINET. La Mar S. Cooper, Erie, Pa., assignor to General Electric Co., a corporation of New York. Application Sept. 6, 1940, Serial No. 355,559. 9 Claims. (Cl. 62—89.)



1. In combination with a refrigerator cabinet of the type having a plurality of door openings, closure means for closing said openings, a mullion between the door openings, and a cooling element for cooling the interior of the cabinet, a portion of the outer surface of the mullion so disposed that it may be cooled below the dewpoint of the surrounding air by the operation of the cooling element, means for preventing the condensation of moisture on said mullion.

REISSUE

21,976. REFRIGERATING APPARATUS. Don E. Dasher, Dayton, Ohio, assignor, by mesne assignments, to General Motors Corp., a corporation of Delaware. Original No. 1,990,471, dated Feb. 12, 1935, Serial No. 589,685, Jan. 29, 1932. Renewed April 10, 1934. Application for reissue Oct. 7, 1936, Serial No. 104,484. 18 Claims. (Cl. 62—6.)



1. An air conditioning system including a refrigerant liquefying apparatus, a room cooler located in each of two different rooms of a building, said room coolers each including refrigerant evaporating means, said evaporating means being connected to said refrigerant liquefying apparatus, and control means for said system including means for controlling the flow of refrigerant through either of the above mentioned room coolers from either of the rooms occupied by room coolers.

PATENTS

HAVE YOUR patent work done by a specialist. I have had more than 25 years' experience in refrigeration engineering. Prompt searches and reports. Reasonable fees. H. R. VAN DEVENTER (ASRE), Patent Attorney, 342 Madison Avenue, New York City.

PUT US ON THE SPOT

WE'LL SHOW YOU WHAT SERVICE MEANS

ON EVERY TYPE OF AIR CONDITIONING AND REFRIGERATION SUPPLIES AND EQUIPMENT

WRITE FOR CATALOG ON YOUR LETTERHEAD

THE HARRY ALTER CO. 1728 S. MICHIGAN AVENUE, CHICAGO, ILLINOIS
3 CHICAGO BRANCHES, NORTH, WEST, SOUTH
NEW YORK PHILADELPHIA BRONX JAMAICA NEWARK DETROIT CLEVELAND ST. LOUIS

FOR MAXIMUM EFFICIENCY

Exclusive PROPELLER—FIN COILS

American's exclusive Propeller-Fin gravity-coils and Propeller-Fin Jr. forced air cooler coils nearly double B.T.U. transfer. The secret lies in the serrated fin, shaped like a propeller. Smaller coil areas, less weight, less metal will do the job. For maximum efficiency specify American Coils—the fastest growing line.

AMERICAN COILS INC., 25 Lexington St., Newark, N.J.

To Make a tight connection that will STAY tight

USE IMPERIAL TRIPLE SEAL FITTINGS

THE flare extrudes into groove making a leak proof joint even when seat has been badly nicked or marred.

Ask your Jobber about Triple Seal Fittings

IMPERIAL BRASS MFG. CO. 565 S. Racine Ave., Chicago

IMPERIAL VALVES • FITTINGS • TOOLS CHARGING LINES • FLOATS STRAINERS • DEHYDRATORS

Water Valves

Amineo No. 614 Water Valve is used to regulate the amount of water passing through water-cooled condensers. It has a double bellows seal, removable body seat, is free from chatter and will operate on all refrigerants except ammonia under water pressure from 15 lbs. to 200 lbs.

Standard connections 3/8" x 3/8" F.P.T. On special order we supply 1/2" x 1/2" F.P.T. at no extra cost.

AMERICAN INJECTOR COMPANY
1481 FOURTEENTH AVENUE, DETROIT, MICHIGAN
Pacific Coast: Van D. Clothier, 1013 E. 16th, Los Angeles
Export: Borg-Warner International Corporation, 310 S. Michigan Ave., Chicago, Ill

DAIRY CASE
WALK IN
REACH IN
VEG-I-CASE
STREAMLINER

Increase your Income the PERCIVAL way

Sell the "Dealer's Choice"—the line that's COMPLETE in model, size, purpose and price—the PERCIVAL LINE. Write for attractive money-making proposition.

"1886—56 years of Satisfactory Service—1942"

C. L. PERCIVAL COMPANY, BOONE, IOWA

CHARGED DAVISON'S SILICA GEL IN OUT WITH

Specify DRYERS THAT BEAR THIS LABEL

Ask your Jobber

BUNDY TUBING

ENGINEERED TO YOUR EXPECTATIONS

BUNDY TUBING CO., DETROIT

Buy fedders COILS

AND HAVE THE ADVANTAGES OF ALL COPPER CONSTRUCTION

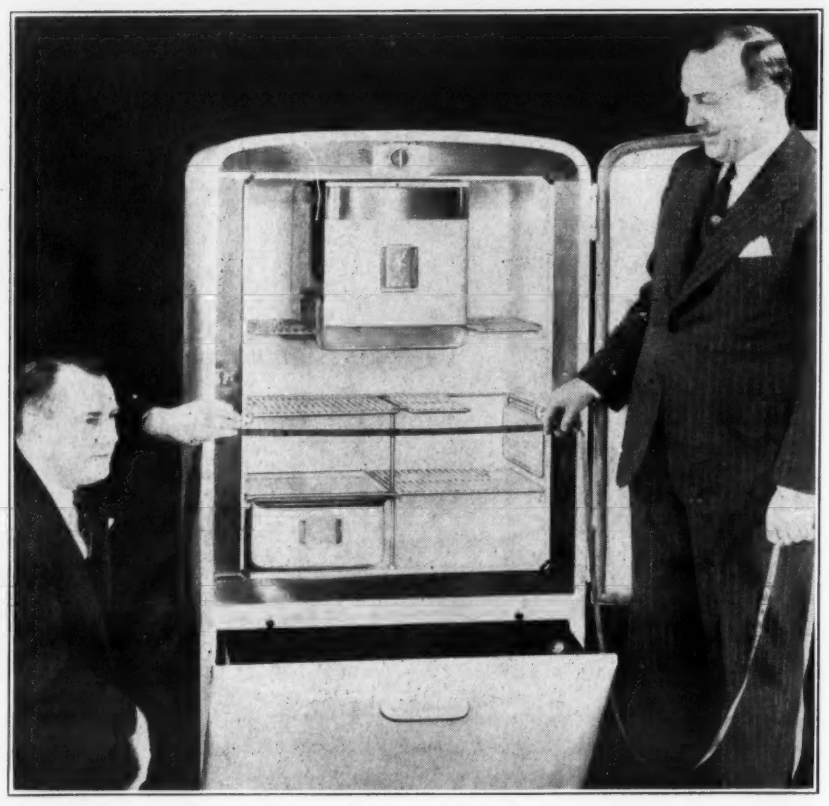
FEDDERS MFG. CO. BUFFALO, N. Y.

Glamour!

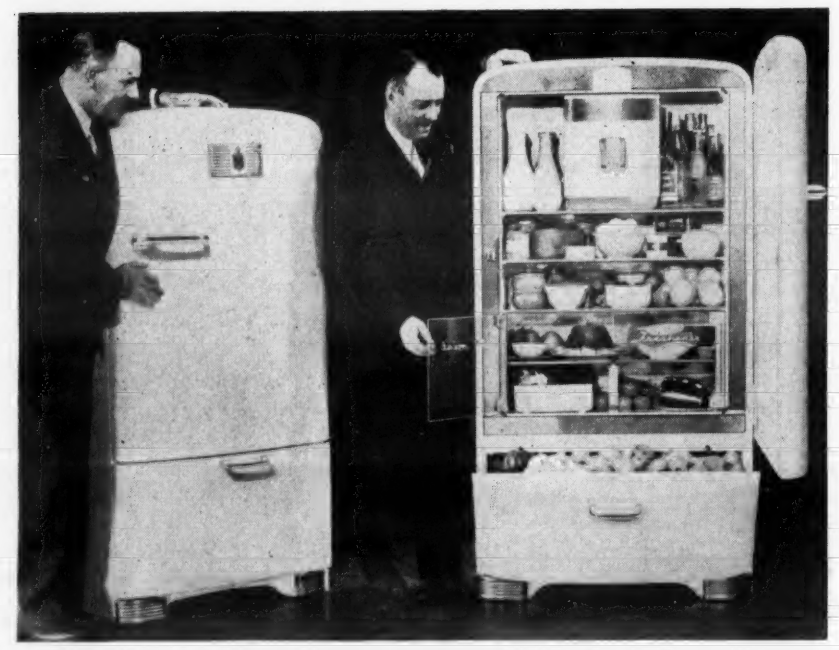
Glamour is as necessary to the modern market as sanitation and smart merchandising. That's why merchants want K-Beam, for K-Beam makes fine products glamorous, appealing, and irresistible. Products are shown in true natural colors, yet look finer than ever. K-Beam is a system available only in Koch cases. It, and other distinctive Koch features, makes Koch the outstanding display case. Write today for complete details, open territories, and the Koch distributor plan.

Koch REFRIGERATORS
NORTH KANSAS CITY, MISSOURI
You'll make money selling

A Bigger Kelvinator For 1942



With a tape measure Frank R. Pierce (right), vice president in charge of sales of Nash-Kelvinator Corp., and Charles T. Lawson, Kelvinator general sales manager, call attention to the size of the 1942 Kelvinator models. Two sizes are standard for 1942—7-cu. ft. and 9-cu. ft. sizes.



Mr. Lawson (right), general sales manager, and Ray Legg, manager of household appliance sales for Kelvinator, examine samples of the 7 and 9-foot models in the 1942 line.

Kelvinator's 1942 Models Emphasize 'Step-Up' Features

(Concluded from Page 1, Column 4)

reducing the number of models. "Sell-up" features which have helped to build dealer and salesman volume in the higher-priced brackets also are emphasized in this year's models.

Chief factor in step-up selling at the top of the line will be the "Moist-Master" models. Two units of this type, one of 7-foot and the other of 9-foot capacity, are in the 1942 Kelvinator series. These models have been refined to make them do a better-than-ever job of protecting perishable foods and minimizing losses from food spoilage. Protection of health and safeguard from food losses is more important than ever today, it is pointed out, because under war conditions health must be preserved and the national food supply protected.

Five types of food storage conditions are possible in the Moist-Master models, it is claimed.

First, the freezing compartment, for making ice cubes, for quick chilling, and for storage of frozen foods and ice cream.

Second, the Meat Chest, for storage of fresh meats and game.

Five-Way Shelf

A five-way "Magic Shelf" arrangement provides: space aplenty for turkeys, tall bottles, watermelons, and other large or bulky foods.

Third, dry cold area, for milk, cream, beverages, and canned or bottled foods.

Fourth, the moderately moist area just below the dry cold area, for foods with protective coverings, such as dairy products, citrus fruits, and berries.

Fifth, the super-moist cold area completely enclosed in glass. Here air circulation is reduced to a minimum and fresh fruits, vegetables, unused portions of opened canned goods, and uncovered "leftovers" can be kept fresh and appetizing.

In "Moist-Master" models, the hermetically sealed Polarsphere condensing unit hnadles the cold-making job in the evaporator for the first three types of storage conditions, and also provides refrigeration for a series of coils which are concealed in the back wall and in the bottom of the cabinets.

Control of humidity is achieved by departmentalizing the interior of the cabinet. The lower compartment is enclosed behind glass. A glass shelf tops the compartment, and glass doors, which spring closed, complete the enclosure. Air circulation is retarded to a minimum, and a high humidity condition is possible.

In the compartment directly above the moist-cold section, air circulation is also retarded by the glass shelves, making this section moderately moist, for certain other foods. Still above this second section, and directly around the freezing coils, is the dry cold area, where bottled foods and beverages are kept.

Exterior of all models is identical, with simplified, streamlined styling. Corners of the cabinets are rounded, and hardware consists of white plastic handles with metal inserts. Door extends horizontally over the entire front of the cabinet, tapering into the rounded corners.

Other fundamental features include welded-steel, rust-proof cabinet, with sealed-in insulation; Permalux exterior finish; plastic inner door panel; one-piece porcelain interior, with acid-resisting bottom; open-throat interior design, eliminating screw heads; porcelain-finished freezer; 13-point cold control; "Freon-12" refrigerant; hermetically sealed condensing unit, and five-year protection plan.

Sell-up features include the five-way "magic shelf," with a half-shelf and two quarter-shelves that may be arranged in either of five different positions to handle a watermelon, a turkey, a tall vase of flowers, or other hard-to-store items.

Meat chest in most models is of moonstone glass, with glass cover, and slides out like a drawer. Single or twin crispers with glass tops are available in all except one model.

Revisions To Copper Order Expected Soon

(Concluded from Page 1, Column 5)

copper in radios, issued at the same time, provides that manufacturers generally are prohibited from using copper or copper base alloy except to the extent necessary for carrying electrical current. Only enough copper may be used to carry the amount of current required, leaving a reasonable factor of safety. All decorative uses of copper are prohibited.

No prohibition has been placed on the sale of radios manufactured within limitations of the order.

Parts of radios as to which use of copper and copper base alloy is entirely prohibited include the cabinet, dials, escutcheons, knobs, and copper shafts of variable condenser tuner. On such parts as antennas, automatic tuning units, coils, electrolytic condensers, resistors, speakers, vacuum tubes, sockets, volume controls, etc., use is permitted only to the extent necessary for carrying current.

Decision Is Given In Bendix Suit

SOUTH BEND, Ind.—Judge Charles G. Briggle of the United States District Court has delivered his decision in the lawsuit of Bendix Home Appliances, Inc. against the Borg-Warner Corp. and John W. Chamberlin and Rex Earl Bassett.

In 1935 the Bendix company acquired an exclusive license under the Bassett and Chamberlin patents to make domestic automatic laundry machines. Bassett and Chamberlin retained the right under their two patents to make commercial washing machines. It became apparent that there was no sharp line of demarcation between domestic and commercial machines.

Judge Briggle's decision put the matter in the form of cylinder volume. He found the volume of the cylinder of the Bendix machine to be 2.03 cubic feet. He held that any machine which Borg-Warner might make, under any license which Bassett and Chamberlin were free to grant, must be equipped with a cylinder having a volume in excess of 4.06 cubic feet.

The decision apparently gives the Bendix company the right to sell its present 2.03-cubic foot machines and any other machines up to 4.06 cubic feet to any and every class of purchaser for any and every use, while Borg-Warner is held to have the right to sell machines with cylinders of more than 4.06 cubic feet to anyone and for any use to which such large machines can be put.

National Defense NEEDS Public Health . .

VITAL VITAMINS depend on Refrigeration!

Go right down the list — Vitamins A, B, C, D — you get them in health-building quantities only because of REFRIGERATION.

For the foods richest in these Vital Vitamins are our MOST PERISHABLE FOODS! Take Refrigeration away and you have quickly a Nation of undernourished, vitamin-starved weaklings — not the strong, energetic, alert men and women that America is depending upon for defense of precious freedom.

If Health is the prime essential to National Defense, and Food is the greatest single factor in assuring that radiant Health, then modern Refrigeration and Refrigeration Equipment and parts are also defense tools, and A-P is proud to play a part in maintaining their efficiency.

★ Progressive Service Engineers Use and Recommend — and Aggressive Jobbers Stock and Talk A-P Products.

★

AUTOMATIC PRODUCTS COMPANY
2450 NORTH THIRTY — SECOND STREET
MILWAUKEE WISCONSIN

★

AP DEPENDABLE Refrigerant Valves

FOOD and FOOD PRESERVATION will help win this war too

★ ★ ★ ★ ★ ★ ★ ★ ★

MILLS MIGHTY REFRIGERATION

Mills Condensing Units
By Mills Novelty Company
4100 Fullerton Ave., Chicago, Ill.

★ ★ ★ ★ ★ ★ ★ ★ ★